

THE MARINE RECORD

ESTABLISHED 1878

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CLEVELAND, OHIO, MARCH 12, 1896.

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APPOINTMENTS FOR NEXT SEASON.

The following appointments of masters and engineers for the season of 1896, have been announced by owners:

STEAMER.	MASTER.	ENGINEER.
Ann Arbor, No. 1	Kilty, Peter	Ackerman, A. W.
Ann Arbor, No. 2	Robertson, W. P.	Cosgrove, T. H.
Avon	Stafford, T. H.	Conshaine, Chas
Arcadia (Br.)	Clifford, John	
Alberta (Br.)	McAllister, J.	Cameron, A. J.
Arabian (Br.)	Patanaude, Oliver	
Athabasca (Br.)	McDougall, O	Lockerbie, Wm.
Barker, S. B.	Smith, E. S.	Cook, Frank
City of Toledo	McNelly, Edward	
Cormorant	Buie, Duncan	
Chamberlain, (Br.)	Foot, James	
Chippewa (Br.)	McGiffin, J.	McCaull, R.
Chicora (Br.)	Harbottle, J.	Parker, H.
Cuba (Br.)	Chestnut, R. bert	Foley, David
Dixon, H. R.	Hector, Jacob F.	Evans, J. mes E.
Douglass	Alfo d, Benjamin	Passano, Eugene
Dolphin, D. G. S.	Pea son, G. W.	Cornish, —
Enquirer	Golden, Samuel	Skelton, William
Fisk, James	McIntosh, John L.	Sherwood, Fred F.
Hinton, Francis	Larsen, Peter	
Hunter	Claussen, Andrew	Belo r, George
Kirby, F. E.	F. x. A. J.	Peery, E.
Katahdin	Sterling, John	
Ketchum, V. H.	Butts, W. C.	McEachren, John
Langell, S.	Carrier, David	
Lake Mich'gn (Br.)	Moran, John	
Madagascar	Jenks, John	Fitzgerald, F. L.
Maran, J. V.	Bordeaux, D. C.	Countryman, J. H.
Murphy, S. J.	Morrison, D.	Gelinas, Louis
Minnie, M.	Mondor, J. B.	
Manitoba (Br.)	Anderson, E. B.	Kenny, R.
Melburne (Br.)	Chestnut, Henry	Milne, Wm.
Myles (Br.)	Mac k e, William	
Nebraska	Thompson, Pete	Taylor, Joseph
Nicol, J. M.	McLean, Wm.	Trethaway, G. E.
Oniagara (Br.)	McIntire, H.	
Ocean (Br.)	Tr. well, J. V.	
P. Isbury	J. ckson, James	Davidson, John
Portage	Chatterton, S. E.	Haig, George
Preston, Maud	Moore, William	
Persia, (Br.)	Scott, John A.	Kennedy, W.
Petrel, D. G. S.	Dunn, E.	Brown, A. J.
Sawyer, P.	Hanson, Ole	
St. Louis	Symes, George A.	
State of Ohio	Raleigh, John	Bushman, John
Stephenson, I. W.	Nicholson, J. B.	
Seguin (Br.)	Symes, James B.	Gillespie, Samuel
Tilley (Br.)	Irving, S.	
Ward, Eber	McIntosh, M. G.	Judge, John R.
Washburn	Moody Charles E.	St. Bernard, Bion
Wyandotte	Desana, John	Ho'd r, Julius

TUG.	MASTER.	ENGINEER.
Anderson, F. R.	Hadlund, Fred.	McCurdy, Samuel
Emery, Temple	LeClair, Lewis	Harrington, Jos.
Morse, J. C.	Rogers, F. C.	Fisher, Charles
Truscott	Jordan, Peter	Gagnon, G. J.
Wisconsin	Skeldon, James	Corns, Lee

SCHOONER.	MASTER.
Aberdeen	Coles, Frank
Ash, A. M.	Peters, Frank
Becker, W. D.	Richards, George
Champion	Matthewson, H. A.
Dundee	Fisher, Horace
Eureka	Adams, Joseph
Goshawk	Nagle, W.
Jenness, B. W.	Turner, Thomas
Michigan	Cadotte, F. J.
Minch, Sophia	Leland, A.
Neil, Fanny	Moore, Chas. K.
Norris, A. B.	O'Hagen, D.
Peshtigo	Bennett, Lee D.
Potomac	O'Hagan, H. J.
Stephenson, S. M.	Cowan, John
Wadena	Mackie, George
Wall, Chas.	Silversides, J.
W. olson, Mary	Allan Wallace

THE FREIGHT SITUATION.

The ore selling and carrying outlook for next season present no new features. The situation at Chicago, Duluth and Buffalo is best described in our letters from those ports. While nothing has yet been done in coal

something may be looked for during the coming week, as Pittsburg district operators have agreed upon arrangements which will doubtless coalesce with a similar organization of Ohio mine owners and a division of tonnage in a basis similar to that of last year. Sales will be made at a slight advance—not over 30c per ton over last year's prices. Rail rates are much the same, with slightly better terms for West Virginia coal. The entire lake shipments of bituminous coal are expected to exceed 3,500,000 tons. Nothing is yet announced regarding hard coal.

NO EARLY OPENING.

By Telegraph to The Marine Record.

MACKINAW CITY, MICH., March 12.

Latest tests of ice show a thickness of 16 to 20 inches and solid. The indications are that navigation will not open before April 15th or 20th.

MRS. LUELLA STIMPSON,
Marine Reporter.

THE ROCKEFELLER FLEET.

Mr. L. M. Bowers, new manager of the vessels building for the Rockefeller syndicate, has arrived in Cleveland, and has temporary quarters in the office of Oglebay, Norton & Co., while his more extensive suite on the third floor of the Wade Building is being fitted up. Mr. Bowers is already a very busy man, and will continue so for some time, even though the first of the new ships will not be completed until July. He has already in his charge the Pillsbury and Washburn, and barges Nos. 101 and 102, which will tow behind these steamers next season. Mr. Bowers, while not especially familiar with the lake trade, has in time been a successful newspaper man, and consequently his capabilities in his present position are not to be questioned. He is a gentleman of pleasing presence, an energetic worker, and will have in a few weeks a host of warm friends on the lake region. The name of the new corporation is announced as the Bessemer Steamship Co., named in honor of Sir Henry Bessemer. The steamships of the line will be named in after men who have done most for the advancement of science, both in this country and Europe.

FLOTSAM AND JETSAM.

The steamer Penobscot is loaded at Chicago with 245 bushels of oats, or 3,920 tons.

There is said to be 40 feet of ice under the Shenango No. 1, which lies disabled off Erie.

The insurance meeting set for Buffalo this week has been postponed. For A1 vessels the talk is 4 per cent.

The blacksmith shop at F. W. Wheeler & Co.'s yard, West Bay City, burned last Saturday. A shift of wind saved the machine shops.

Boats in shelter under Whitefish Point, Lake Superior, next season will be reported to the newspapers and owners, whenever near enough to shore to have their names made out.

The Port Arthur & Duluth Steam Packet Co. (Ltd.), which operates the Cambria (Br.) and Carmona (Br.) is considering the advisability of making Sandusky its eastern terminal.

The new beacon light on Fisheries Island, just south of Grassy Island, in the Detroit river, has been completed. It forms a range with the Grassy Island light to keep vessels off the shoal in passing Mamajuda Island. Two range lights are to be put in just west of Grassy Island early this season for the navigation of the river above the island. They will be ready by midsummer.

AMENDED STEAMBOAT REGULATIONS.

WORK OF THE BOARD OF SUPERVISING INSPECTORS.

WASHINGTON, D. C., Feb. 17, 1896.

At the regular meeting of the Board of Supervising Inspectors of Steam Vessels, held at Washington in January, amendments were made to Rules I, II, III, V, and IX of the General Rules and Regulations. Form 2177, Certificate of Inspection for Foreign Passenger Steamers, was amended; and inspectors in districts where foreign passenger steamers are inspected should make immediate requisition therefor, and, as soon as supplied, use the new form exclusively, interlining the changes in book of certificates.

These amendments to the rules, having received the approval of the Secretary of the Treasury, have now the force of law, as provided in Section 4405, Revised Statutes, and must be observed accordingly.

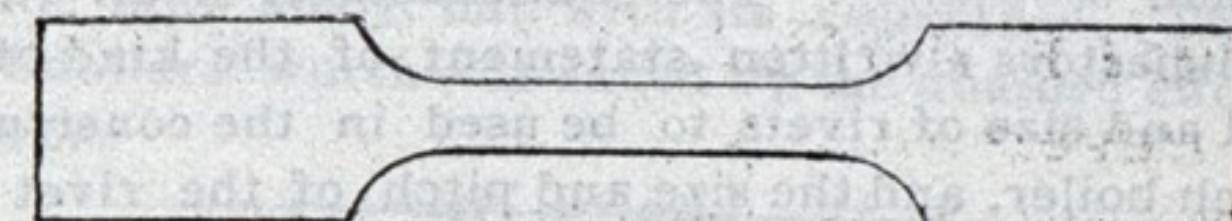
The Reliance Metallic Life Raft and the Lunkenheimer Improved Pop Safety Valve were approved by the Board, and have also received the approval of the Secretary of the Treasury.

Following is the text of the rules amended in part only, the parts stricken out inclosed in brackets [thus], while the additions to such paragraphs are printed in *italics*. Entirely new sections and paragraphs of sections are in plain type preceded by the word (new) in parenthesis.

RULE I.

Section 3. (Third paragraph new.)

To ascertain the tensile strength and other qualities of steel plate, there shall be taken from each sheet to be



used in shell or other parts of boiler which are subject to tensile strain, a test piece prepared in form according to the following diagram:

The straight part in center shall be 9 inches in length and 1 inch in width, marked with light prick punch marks at distances 1 inch apart, as shown, spaced so as to give 8 inches in length.

The sample must show, when tested, an elongation of at least 25 per cent in a length of 2 inches, for thickness up to 1/4 inch, inclusive; and in a length of 4 inches, for over 1/4 to 7/16, inclusive; in a length of 8 inches, for over 7/16 to 1 inch, inclusive; and in a length of 6 inches, for all thickness over 1 inch.

The reduction of area shall be the same as called for by the rules of the Board. No plate shall contain more than .06 per cent of phosphorus, and .04 per cent of sulphur, to be determined by analysis by the manufacturers, verified by them, and copy furnished the inspector for each order tested; which analysis shall, if deemed expedient by the Supervising Inspector General, be verified by an outside test at the expense of the manufacturer of the plate.

It being further provided that said manufacturer shall also furnish a certificate with each order of steel to be tested, stating the technical process by which said steel was manufactured. It being further provided that steel manufactured by what is known as the Bessemer process shall not be allowed to be used in the construction of marine boilers. Plates over 1 inch in thickness may be reduced to 1 inch in the straight part for testing, in cases where the testing apparatus is not of sufficient capacity to test the full thickness of plate. The reduction of area and elongation must be equal to the requirement of full thickness of metal.

Provided, however, That where contracts for boilers for

ocean-going steamers require a test of material in compliance with the British Board of Trade, British Lloyds, or Bureau Veritas rules for testing, the inspectors shall make the tests in compliance with the above rules. The samples shall also be capable of being bent to a curve of which the inner radius is not greater than one and a half times the thickness of the plates after having been heated uniformly to a low, cherry red, and quenched in water of 82 degrees Fahrenheit. Such tests are to be made at the place of manufacture of the material, by a local or assistant inspector of the district in which such material is to be used, whenever possible. If, however, from distance or other insufficient reason, the inspectors of the district are unable to make such tests, the Supervising Inspector General may direct a local or assistant inspector from another district to make them. In every case, however, the inspector making the tests shall stamp the initials of his name above the manufacturer's stamp on the plates, and also the letters "U. S. I." with the initials or abbreviated signs of the name of the port to which the inspector making the tests belongs.

Provided always, That the plate possesses homogeneity, toughness and ability to withstand the effect of repeated heating and cooling; but should these tests prove any plate to be overstamped, such plate must be rejected as failing to have the strength stamped thereon, but nothing herein shall be so construed as to prevent the manufacturer from restamping such plate and all other plates in the lot at the lowest tensile strength indicated by the deficient sample, provided such restamping is done previous to the use of the plates in the manufacture of marine boilers. When more than one sample shall be tested from one sheet, the sample showing the lowest tensile strength shall be allowed as the tensile strength of the plate.

These amendments shall take effect on and after July 1, 1896.

Section 4. (First paragraph.)

4. The manufacturer of any boiler to be used for marine purposes shall furnish the inspectors of the district where such boiler or boilers are to be constructed a blue print or tracing descriptive of same for their approval, which shall be kept on file in their office. *Where more than one boiler is made from a similar design, a drawing of which is on file in the local inspector's office, if made at a different date, a reference to such drawing on file is all that shall be required.* The manufacturer shall furnish the inspectors a written statement of the kind of material and size of rivets to be used in the construction of such boiler, and the size and pitch of the rivet holes in same, as well as an affidavit in the following form, subscribed to, either by himself or authorized agent having superintendence of the construction of such boilers.

RULE II.

Section 9. (New paragraph at end of section.)

Tubes, water pipes and steam pipes, made of steel manufactured by the Bessemer process, shall not be allowed to be used in any marine boiler built from and [on or] after July 1, 1896; nor shall any tube increased in thickness by welding one tube inside of another be allowed for use after the above-named date.

Section 14. (Third paragraph amended.)

RIBBED FURNACE FLUES.—The strength of ribbed flues, when used for furnaces or steam chimneys (rib projections not less than $1\frac{1}{8}$ inches deep), and not more than 9 inches from center to center of ribs, and provided that the plain parts at ends do not exceed 9 inches, and constructed of plates not less than $\frac{7}{16}$ inch thick, with practically true circle; and

The strength of corrugated flue when used for furnace or steam chimney, corrugated by sections with flanged ends overlapping each other and riveted with $\frac{3}{4}$ -inch rivets, 2-inch pitch, corrugated projection not less than $2\frac{1}{2}$ inches from inside of flue to outside of lap, and not more than 18 inches between centers of corrugation, provided plain parts at ends do not exceed 12 inches in length, constructed of plates not less than $\frac{7}{16}$ inch thick, with practically true circles; and

The strength of ribbed flues when used for furnaces or steam chimneys, when made in sections of not less than 12 inches in length, measuring from center to center of said projections, and flanged to a depth not exceeding $2\frac{1}{2}$ inches, and substantially riveted together with wrought-iron rings between such flanges, and such rings have a thickness of not less than double the thickness of the material in the flue, and

a depth of not less than $2\frac{1}{2}$ inches, when straight ends do not exceed 12 inches shall in length, in each of the above cases, be calculated from the following formula:

$C = 14,000$, a constant.

T = thickness of flue in decimals of an inch.

D = diameter of flue in inches.

P = pressure of steam allowable.

$$\text{Formula: } P = \frac{C \times T}{D}$$

Section 19. (Amended.)

All steamers [navigating rivers] having boilers externally heated shall have a clear space of not less than 6 inches between the boilers and woodwork on either side, and 4 inches on the top of said boilers.

Section 21. (New.)

21. All boilers hereafter placed in steamers shall have a clear space of at least 8 inches between the under side of the cylindrical shell and the floor or keelson.

All manholes for the shell of boilers over 40 inches in diameter shall have an opening not less than 11 by 15 inches in the clear, except that boilers 40 inches diameter of shell and under shall have an opening of not less than 9 by 15 inches in the clear in manholes.

Section 23. (Part in brackets transferred to section 38, Rule II.)

23. All boilers shall have a clear space at the back and ends thereof of 2 feet opposite the back connection door. [Slip joints in steam pipes shall, in their working parts, when the steamer is to be employed in navigating salt water, be made of copper or composition.] *Provided, That on vessels constructed of iron or steel with metal bulkheads, the distance between back connection doors and such metal bulkheads shall not be less than 16 inches.*

Section 38. (Third paragraph.)

On all boilers built after July 1, [1891.] 1896, a [flanged bronzed] bronze, or brass-seated stopcock or valve shall be attached to the boiler between all check valves and all steam and feed pipes and boilers, in order to facilitate access to connections.

Where such cocks or valves exceed $1\frac{1}{2}$ inches in diameter they must be flanged to boiler. The stop valves attached to main steam pipes may, however, be made of cast iron or other suitable material. *The date referred to above applies to this paragraph only.*

Section 38. (Transferred from section 23 to end section 38.)

Slip joints in steam pipes shall, in their working parts, when the steamer is to be employed in navigating salt water, be made of copper or composition.

RULE III.

Section 12. (First paragraph amended.)

13. Passenger steamers navigating oceans, north-western lakes, bays and sounds of the United States, excepting steamers under 100 gross tons, hereinafter provided for, must be equipped with lifeboats in proportion to their tonnage as follows: Between 100 and 200 tons, 2; between 200 and 300 tons, 3; between 300 and 400 tons, 4; between 400 and 500 tons, 5; between 500 and 1,000 tons, 6; between 1,000 and 1,500 tons, 7; between 1,500 and 2,000 tons, 8; between 2,000 and 2,500 tons, 9; between 2,500 and 3,000 tons, 10; between 3,000 and 3,500 tons, 11; between 3,500 and 4,000 tons, 12; between 4,000 and 5,000 tons, 13; of 5,000 tons and above, 14.

Steamers above 5,000 tons burden shall be furnished with an additional boat of not less than 495 cubic feet capacity for each additional 500 tons burden or fraction thereof; or, if the owners or agents prefer, two boats may be used, provided the aggregate capacity shall be the same as the one boat described.

RULE V.

Section 2. (Amended as follows):

The following-named grades of engineers are abolished, and struck out of the rules:

Chief engineer of condensing steamers under 100 tons. Chief engineer of non-condensing steamers under 100 tons. Chief engineer of canal steamers. First assistant engineer of condensing steamers under 100 tons. First assistant engineer of non condensing steamers under 100 tons. First assistant engineer of canal steamers. Second assistant engineer of non-condensing river steamers. Second assistant engineer of non-condensing freight, towing and fishing steamers. Second assistant engineer of condensing steamers under 100 tons. Second assistant engineer of non-condensing steamers

under 100 tons. Third assistant engineer of non-condensing lake, bay and sound steamers. Third assistant engineer of condensing river steamers. Third assistant engineer of non-condensing river steamers. Third assistant engineer of non condensing freight, towing and fishing steamers. The word "bay" is struck out of the grade. Third assistant engineer of condensing lake, [bay,] and sound steamers.

Section 5. (Proviso amended.)

Provided, That any person who has served [as] a regular apprenticeship to the machinist trade in a marine-engine works for a period of not less than three years, and any person who has served for a period of not less than three years as a locomotive engineer, stationary engineer [regular machinist], or as an apprentice to the machinist trade in a locomotive or stationary-engine works, and any person who has graduated as a mechanical engineer from a duly recognized school of technology, may be licensed to serve as an engineer on steam vessels after having had not less than one year's experience in the engine department of [a] steam [vessel] vessels, which experience must have been obtained [within two years preceding the application] either within one year before or one year subsequent to the acquisition of the skilled knowledge above mentioned, (which fact must be verified by the certificate in writing of the licensed engineer or master under whom the applicant has served, said certificate to be filed with the application of the candidate); and no person shall receive license as above, except for special license, who is not able to determine the weight necessary to be placed on the lever of a safety valve (the diameter of valve, length of lever, distance from center of valve to [and] fulcrum, weight of lever, and weight of valve and stem being known) to withstand any given pressure of steam in a boiler, or who is not able to figure and determine the strain brought on the braces of a boiler with a given pressure of steam, the position and distance apart of braces being known, such knowledge to be determined by an examination in writing and the report of examination filed with the application in the office of the local inspectors, and no engineer or assistant engineer now holding a license shall have the grade of the same raised without possessing the above qualifications.

Section 10. (Third paragraph.)

In case of original or renewal of any license of any master or pilot who has not been examined for color blindness, and who is living at [an inconvenient] a distance of one hundred miles or more from a surgeon of the Marine Hospital Service, he may be examined for color blindness by any respectable physician residing in the same town or locality with said applicant; [who (the physician)] and the physician shall furnish a duplicate report of the examination made upon the regulation blanks [which shall be in duplicate], one copy of which shall be furnished the applicant and the other sent [by mail] to the local steam inspectors of steam vessels [, to which application shall be made for a] to whom the applicant shall apply for such original or renewal of license.

Section 14. (Proviso in third paragraph.)

Provided, however, that applicants for original license to act as master or mate of steam pilot boats, or of steamers engaged in the Atlantic, Pacific, or Gulf coast [menhaden] fisheries, shall only be subjected to such examination as shall satisfy the inspectors that the applicant is a competent coast pilot, capable of navigating such [fishing] steamers.

RULE IX.

Section 2.

2. It shall be the duty of the inspectors jointly, before granting a certificate of inspection, to thoroughly test the fire apparatus of steamers, and to examine carefully all pumps, hose, lifeboats, and other equipments required by law, and to see that the glass of colored signal lights [are] is in no case less than 6 inches [diameter] in width and [6] 5 inches high in the clear.

Section 5.

5. It shall be the duty of the supervising inspectors to inform their respective local boards, in writing, of their decisions in cases of appeal. *Supervising inspectors granting license to a vessel engaged in towing, to carry persons in addition to its crew [under the act], approved July 9, 1896, shall notify the local inspectors in whose jurisdiction the steamer receiving the permit is engaged. The local inspectors shall keep a record of the same.*

(No change in remainder of section.)

SENATOR FRYE'S NEW BILL.

The bill which Senator Frye introduced on February 18 (No. 2162) relative to the United States steamboat inspection service, and which was referred to the Senate Committee on Commerce, seems to stand a fair chance for passage.

The change which has the greatest effect on the lakes is the requirement that vessels building on the Great Lakes, and to be finished after August 1, 1897, over 100 tons burden, must have not fewer than three water-tight cross bulkheads; steamers of 1,000 to 3,000 tons shall have five, and steamers of over 3,000 tons shall have seven such bulkheads.

It contemplates other rather sweeping changes, including the creation of a number of new local inspection offices, one of which will be established at Toledo, one at Erie, one at Green Bay, and at one or two other points on Lake Michigan and Lake Superior. The salary of the supervising inspector general is increased from \$3,500 to \$4,500 a year, and the bill provides that "he shall be selected with reference to his experience acquired as licensed officer of steam vessels," etc.; an assistant supervising inspector general, with a salary of \$2,500, "who shall have been selected from the engineers of the highest grade licensed," is also provided for. There shall be ten supervising inspectors, as now, but five of these shall be masters and five engineers, the proportion now being about eight or nine to two or one. These must have had experience on vessels of a net tonnage of at least 1,000.

Salaries shall be graded as at present. Local inspectors shall be designated by the supervising inspector without regard to politics, and the inspector of hulls shall be selected from the highest grade of master or pilot, and the inspector of boilers from the highest grade of engineers. Incompetency, inefficiency, misconduct, or physical inability are the only grounds of dismissal.

Foreign passenger steamers, when inspected at home under rules similar to ours, shall be exempt from American inspection when their country affords similar exemption to American craft.

All vessels above 15 tons, carrying freight or passengers for hire, and propelled by gas, fluid or electricity, shall be subject to inspection and to rules for steam vessels.

Single-riveted boilers shall not be allowed a greater pressure than will exceed .205 of tensile strength of the iron or steel, 20 per cent being allowed the longitudinal laps of the cylindrical parts of such boilers as are double riveted, when the rivet holes have been drilled instead of punched, and more than 20 per cent when such boilers are provided with triple-riveted longitudinal lap joints or double weld longitudinal butt joints, although the supervising inspectors may, when they deem necessary, reduce the factor of safety to not less than $\frac{1}{2}$ instead of $\frac{1}{3}$.

Under the bill second and third mates are required to hold licenses; masters and mates of sailing vessels may be licensed as such, and as pilots, and when so licensed as pilots, the vessels on which they are employed shall be exempt from all State pilot laws. All masters, pilots, mates and engineers must be citizens. Ferryboats navigating a distance greater than five statute miles shall be limited in the number of passengers allowed. Vessels with water-tight compartments enough to keep them afloat in moderate weather when any two of such compartments shall be open to the sea, may dispense with one-fourth the number of floats and life rafts required; the penalty for not carrying life-saving equipment required shall be \$1,000.

The bill, if it becomes law, is to go into effect July 1, 1896, and continues present incumbents in office.

A GOOD SHOWING.

The Richelieu and Ontario Navigation Co. report their gross receipts last season as \$689,168.46, and the expenditures \$582,730.60, leaving a net profit of \$106,437.86. Out of this amount two dividends of 3 per cent each have been declared, together amounting to \$81,000, the balance of \$25,437.86 being added to the surplus. Electric lights have been placed on all steamers running on the principal lines. The Hamilton is practically new and material improvements made to several other steamers. The board of officers and directors as it now stands is as follows: J. L. Forget, president, Wm. Wainwright, vice president; Rudolph Forget, Col. W.

Henshaw, Hector Mackenzie, Joseph Lewis, James Swift, C. O. Paradis, Michael Connolly, E. B. Garneau, and William Hanson.

NOTES.

THE battleship Indiana will be docked at Port Royal, March 12.

AN aluminum boat, built by the Yarrows for France, is 62 feet long, has a displacement of only 14 tons, and a speed of 20½ knots. Five other vessels of the same type are to be built in France.

THE battleship Iowa will be launched from Cramps' shipyard on the 28th of the present month, and the steamship Atlanta, being built for the Southern Transportation Co. at the same yard, will slide overboard on the 14th inst.

THE duty on the coal to be used in Canada by the Grand Trunk Ry. Company forms an important item, and yet the coal from the States, with the duty added, costs less than would Nova Scotia coal, even if the use of the latter were practicable.

In the 20 years ending June 30, 1895, there were reported 100 ocean and coastwise steamers lost. The total number of lives lost was 776, or an average loss per annum of less than 39 persons. On the railroads of the United States during the five years ended June 30, 1894, there were killed, as reported by the Interstate Commerce Commission, 34,304 persons, including pas-



CAPT. GEORGE BRECKENFELD.

sengers and employes, or an annual average of 6,861 persons killed.

THE London Daily Graphic says that Emperor William is the owner of the large racing yacht that is now being built by D. & W. Henderson & Co., of Glasgow, after a design by G. L. Watson. The yacht is being constructed on the blocks used for the Valkyrie III., and the same secrecy regarding her dimensions and lines is observed as was the case when the latter yacht was building.

THE Ontario & Western Coal Co. are ever alive to their best interests, which is evidenced by the fact that they have ordered the construction of four large barges to be used for New England and Sound business. Two of these barges will have a capacity of 1,450 tons each, and two of 950 tons each. These boats will be able to handle between 75,000 and 100,000 tons annually, on which there will be a considerable saving to the Ontario & Western. Ordinarily the coal would have to be sent over the West Shore and Weehawken, and would have to pay trackage to the West Shore. That which would go to New England would be exchanged with the New York & New England Railroad, and the Ontario & Western would lose a certain mileage thereon. Under the present arrangement they will be able to handle their coal from mines to the market and thereby increase their net profit on every ton of coal.

MARINE RECORD Life Savers' Series.

CAPT. GEORGE BRECKENFELD.

It is sincerely hoped that the United States Life-Saving Service will not soon lose so valuable a member as is Capt. George Breckenfeld, keeper of the station at Racine, Wis. Capt. Breckenfeld recently wrote THE RECORD as follows: "I am at present nearly 54 years of age, and will have to retire pretty soon from this branch of a sea-faring life. The infirmities of age, the hardships which I have gone through, sad sights which I have seen begin to tell on me, and it will soon be time for me to give my present position to a younger man."

We are inclined to think Capt. Breckenfeld takes too gloomy a view of the situation, as at 54 years a man has not usually progressed so far beyond the prime of life. At the same time Capt. Breckenfeld has seen a good deal of the rough life of sea-faring on salt and fresh water. He was born in historic Mecklenburg-Schwerin, North Germany, and went to school in the Gymnasium at Schwerin until he was 15 years old, after which he went to sea. He sailed out of Rostock for three years, chiefly in the Baltic and North Seas and in the Mediterranean trade, after which he went to Hamburg and sailed under the Hamburg flag, most of the time in the China Sea. When 24 years old he came to New York, and sailed three years out of that port in American vessels, after which he came to the Great Lakes, on which he sailed for 14 years, being chiefly engaged in the Lake Michigan lumber trade. In 1880, at the age of 38, he enlisted as surfman in the Racine life-saving crew; and served there under keepers John Lundberg, William Jones and John Lysacht. He was in the surf-boat when it capsized in the breakers, Keeper Jones being drowned. After this he was appointed acting keeper, and in 1888 received his full appointment.

During Capt. Breckenfeld's term as keeper, not counting last season, he sent in to headquarters at Washington, besides minor reports, 67 wreck reports, 33 of which related to sailing vessels, 17 to steamers, and 17 to smaller boats—yachts, skiffs, etc. Thirteen of these vessels were wrecked on Racine Reef; 14 stranded on the beach; 40 became otherwise disabled and were in need of assistance, and five proved total losses. There were about 400 persons on board these vessels, and in more or less danger. No lives were lost on large vessels, but a few people have been drowned by small boats capsizing. The crew has, in addition, dragged for and fished up about 15 bodies of persons who had either committed suicide or were accidentally drowned. Perhaps nearly a million dollars' worth of property was involved in these disasters and most of it was saved, not by the crew alone, but with its assistance. Thousands of dollars' worth was saved by the unaided efforts of the crew.

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD by George F. Stone, Secretary Chicago Board of Trade, March 7, 1896.

CITIES WHERE STORED.	WHEAT, Bushels.	CORN, Bushels.	OATS, Bushels.	RYE, Bushels.	BARLEY, Bushels.
Albany		10,000	40,000		10,000
Baltimore	124,000	691,000	88,000	96,000	
Boston	481,000	102,000	11,000		
Buffalo	1,618,000	89,000	27,000	300,000	637,000
" afloat	259,000		223,000		250,000
Chicago	19,832,000	4,386,000	1,235,000	368,000	18,000
" afloat	349,000	5,138,000	832,000		
Cincinnati	11,000	3,000	19,000	16,000	62,000
Detroit	301,000	58,000	10,000	12,000	10,000
" afloat					
Duluth and Superior	11,734,000	113,000	953,000	185,000	149,000
" afloat	512,000				
Indianapolis	80,000	58,000			
Kansas City	1,371,000	92,000	35,000	27,000	
Milwaukee	418,000	2,000		226,000	45,000
" afloat	176,000		120,000		
Minneapolis	19,061,000	42,000	552,000	116,000	239,000
Montreal	826,000	27,000	263,000	3,000	53,000
New York	2,878,000	132,000	1,544,000	9,000	89,000
" afloat	228,000		93,000		109,000
Oswego					48,000
Peoria	19,000	228,000	356,000	4,000	
Philadelphia	353,000	514,000	123,000		
St. Louis	1,210,000	1,170,000	526,000	3,000	2,000
" afloat		107,000			
Toledo	722,000	806,000	64,000	125,000	
" afloat					
Toronto	28,000		85,000		26,000
On Canal		8,000	12,000		
On Lakes					
On Mississippi		274,000	17,000		
Grand Total	62,596,000	14,050,000	7,228,000	1,490,000	1,747,000
Corresponding date 1895	77,717,000	13,792,000	6,408,000	297,000	1,217,000

There is a letter at this office for the Cleveland Branch, Lake Pilots' Association.



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CLEVELAND, O., MARCH 12, 1896.

THE prediction is freely made at Washington that Speaker Reed's economical ideas will have to yield to a liberal river and harbor bill this session.

LAKE commercial bodies are giving their attention to the obnoxious Woodman, Phillips, and Mahany bills, and their chances for passage seem quite small.

THE lake interests are suffering unparalleled annoyance during this session of Congress at the hands of theorists. Senator Frye's bill, which is supposed to come from Supervising Inspector General Dumont, contains some provisions of a most pernicious character, together with some very wise ones. No one will severely criticize the Inspector General for getting more salary if he can, although some caustic comments are likely to be made in connection therewith. But why should he drag in a requirement for lake craft which will, without material advantage on the score of safety, entail burdensome expense in adding to the first cost and the operation of vessels? Under the provisions of the Frye bill (No. 2162) all vessels of 1,000 to 3,000 tons burden, to be finished after August 1, 1897 (which will include nearly all contracts to be made after July 1, 1896) must have not fewer than five water-tight bulkheads athwartship. This means not fewer than two, and sometimes three, in the hold of the vessel; in steamers of over 3,000 tons the number of bulkheads required is seven!

One of the most effective features of our Great Lakes fleet, in connection with economical handling and trimming of cargo is that the whole quantity of cargo of coarse freight is carried in one compartment. This is of vital importance to continued low freight charges, and the extra time consumed in unloading ships divided into so many compartments must be paid for very soon after such laws go into effect, in increased freights.

The open holds are much more healthful for the men who have to handle these cargoes, by reason of the better ventilation. All the strength which would be added by these extra bulkheads is already provided for in deck-beams, extra shell plating, stanchions, intercostals, etc., so that safety for life and property are sufficiently looked after. These extra transverse bulkheads will increase materially the first cost, and will prove especially obnoxious to vessels engaged for a part of the season in the grain trade, when a full sweep of the hold with steam shovels is necessary to rapid and economical elevation of cargo. Vessel owners, even more than builders, should make an attempt to have the bill amended in this particular.

INLAND LLOYD'S VALUATION.

The Inland Lloyds' Vessel Register for 1896 is about ready for distribution. A large number had their insurance valuations increased this winter, but more were reduced, owing to depreciations. Most of the advances were made on new steel tonnage, building prices and worth from a commercial point of view both having advanced.

The North West and North Land are given a valuation of \$500,000 each.

Increases compared with 1895 were as follows:

J. J. McWilliams, \$40,000; Kearsarge, \$35,000; W. H. Gilbert, \$30,000; Alva, Selwyn Eddy, and I. W. Nicholas, \$25,000; W. L. Frost, W. H. Gratwick (steel), Samuel Mitchell, Mohawk, Arthur Orr, Owego, Fred Pabst, E. M. Peck, E. C. Pope, Saranac, Schlesinger, Trevor, schooners Malta and Marcia, \$20,000.

America, Arundel, Briton, H. H. Brown, S. S. Curry, Delaware, R. P. Flower, Harlem, Globe, H. J. Jewett, Livingstone, Manchester, Maryland, Merida, Nebraska, John Owen, T. W. Palmer, Pathfinder, Phoenix, F. L. Vance, and E. P. Wilbur, \$10,000 each.

Schooner Peshtigo, \$8,000; schooner Scotia Lizzie Law, \$7,000 each.

Brazil, City of Rome, Clyde, Codorus, J. L. Colby, J. B. Colgate, Conemaugh Cuba, City of Charlevoix, George Farwell, J. C. Ford, Juniata, Simon Langell, A. G. Lindsay, Marion, S. L. Mather, Thomas Maytham, Fred Mercur, S. P. Murphy, Niko, Pueblo, Sheboygan, Samoa, Schuykill, John Spry, Tioga, Tuscarora, Vega, Wallula, Wesover, W. L. Wetmore, A. P. Wright, Yakima, and schooners Adriatic, Alex Anderson, Arenac, Harold, Yukon, barges 117 and 118, Sagamore, \$5,000.

Ogemaw, schooners Adriatic, T. L. Parker, T. P. Sheldon, Mabel Wilson, \$3,000.

City of Fremont, Colin Campbell, schooner Thomas Gawn, \$2,500.

F. & P. M., Nos 1 and 2, Louis Pahlow, Philetus Sawyer, Eleanor, Galatea, Emma C. Hutchinson, Our Son, George B. Owen, San Diego, Wayne, \$2,000.

George A. Marsh, \$1,000; C. H. Johnson, \$3,500.

Decreases are as follows:

City of Toledo, Northern Light, Northern King, Northern Queen, Northern Wave, North Wind, North Star, Nyanza, St. Ignace, \$25,000.

Ann Arbor Nos. 1 and 2, \$20,000.

Andaste, John Duncan, Rappahannock, Sacramento, St. Paul, \$15,000.

Avon, City of the Straits, City of Milwaukee, Cadillac, Coffinberry, Colorado, Frontenac, J. B. Ketcham, Quito, Ste. Marie, Adella Shores, State of Michigan, W. H. Stevens, C. Tower, \$10,000.

Schooner David Wallace, \$8,000.

Kittie M. Forbes, \$6,000.

Argo, Buell, Buffalo, Bulgaria, Business, Chicago, China, Doty, Drake, Egyptian, Ellen, Elphicke, Fisk, Parks Foster, Jay Gould, M. B. Grover, Hodge, Hurlbut, India, Japan, W. P. Ketcham, S. R. Kirby, Lora, Madagascar, Madden, Majestic, Mecosta, Robert Mills, Monohansett, Mohegan, Montana, J. W. Moore, J. V. Moran, Nahant, Nicaragua, Nicol, Olympia, Csecola, Ossifrage, Ira Owen, Parker, Parnell, Pentland, H. S. Pickands, Portage, Raleigh, Ralph, Reynolds, Rugee, Runnels, Saginaw Valley, Siberia, Tacoma, H. B. Tuttle, Vanderbilt, Victory, Yuma, Zenith City, schooner Mary McLachlan, \$5,000.

Schooner A. T. Bliss, \$4,000.

Algoma, Allegheny, Argonaut, Belle Cross, Empire State, R. J. Gordon, Huron City, Leland, Pilgrim, St. Louis, Seattle; schooners Chicago Board of Trade, Ed. Kelly, Massasoit, Ogarita, \$3,000.

William Armstrong, Corona (s. p.), Garden City, Charles Reitz, Martin Swain; schooners Nelson Bloom Fred Carney, Delaware, Masten, \$2,500.

Arcadia, B. W. Arnold, Atlantis, George Burnham, Duluth, Fayette, I. W. Foster, Fountain City, Gazelle, E. F. Gould, C. H. Green, S. C. Hall, Robert Holland, Juliet, Loretta, S. K. Martin, John Otis, Saginaw, Sailor Boy, Superior, Swallow; schooners Mary N. Bourke, Butman, Constitution, W. S. Crosthwaite, Knapp, Colwell, Ida Corning, Coyne, Northwest, Nester, John O'Neil, Sunrise, W. A. Sherman, Richard Winslow, \$2,000.

George Dunbar, Maud Preston, Snook, schooners City of Chicago, Clara, City of the Straits, S. Clement, Kitchen, John Miner, Monguagon, \$1,500.

City of Green Bay, C. H. Davis, Glenn, Lilly, Pewaukee, Toledo, schooners Bertha Barnes, Commodore, Reuben Dowd, M. J. Downing, Dobbins, Ford River, Sam Flint, W. O. Goodman, L. S. Hammond, Homer, Hattie, Ishpeming, Ida Keith, C. G. King, Lake Forest, Locke, S. J. Luff, Magill, Maria Martin, E. B. Maxwell, Ada Medora, C. P. Minch, Mystic Star, Planet, Penokee, Resumption, A. J. Rogers, Sweetheart, Three Brothers, Unadilla, Anabel Wilson, \$1,000.

Schooners Ann Maria, Wm. Grandy, Pomeroy, \$500.

SEAMEN'S UNION CONVENTION.

The district convention for the Great Lakes of the Seamen's Union convened at Milwaukee last Saturday. Delegates, were as follows, representing about 4,500 seamen; T. J. Elderkin, Joseph Doherty, and William Penge, Chicago; Frank Miller, Fred Benzen, Milwaukee; John Brown, Toledo; Arthur Dufour and Otto

Van Dondaheirn, Cleveland; William Smith, J. Larsen, and P. McKeefer, Buffalo; P. Mintern, Duluth; J. White and A. Turnseth, Ashtabula. The union remained in session several days, transacting secret business.

THE SCOTCH-TYPE AND TUBULOUS BOILER.

Mr. Walter Miller read before the Civil Engineers' Club, of Cleveland, Jan 14, a valuable paper on quadruple expansion of steam. His paper gave full particulars concerning the details of construction of the quadruple expansion engines and Belleville tubulous boilers of the North West and North Land, which may be given more extended mention later. In the discussion which followed Mr. Joseph R. Oldham, after a few complimentary remarks upon the paper, incidentally said:

Let me say a word about the Scotch-type boiler, and I have done. I would not like to see such a safe, reliable, and useful old friend depart, if go it must, without a hearty farewell; and with a view to its retention as long as possible, I think this club might impress upon our inspectors the necessity for relaxing their rules in regard to the cylindrical shell. I never knew of a marine boiler shell exploding, and when I add that the shells of our boilers are about 50 per cent heavier than the British Admiralty require for immense fleets, you will surely agree with me that we might reduce the thickness of our boiler shells with advantage, and without any undue risk.

Mr. Richard L. Newman, superintendent of the engine works of the Globe Iron Works Co., followed, saying in part:

Mr. Oldham has just remarked that he thinks the Scotch boiler will remain with us for a number of years yet; but I will differ from him on this point, as I believe we shall, in a very short time, see very rapid progress in the adoption of the water-tube boiler. Mr. Miller referred to the St. Louis and St. Paul, and in this connection we might, with advantage, make a fair comparison. The weight of machinery, as given by Mr. Miller for the North West, was 1,200 tons for 7,000 indicated horsepower. This gives us 5.9 indicated horsepower per ton of weight. That of the American liners is 6.66 indicated horsepower per ton of weight. This is rather a surprise to me, as I would naturally look to the application of the water-tube boiler to result in a saving of weight, in addition to its ability to carry a higher steam pressure; but here we have Scotch boilers showing quite as good results, if not better, than those of the Belleville boiler.

I agree with Mr. Oldham in his remarks as to the strength of the boiler shell being in excess of that actually required; for a number of years I have been engaged in both the designing and construction of boilers, where we allowed a factor of safety of not more than four. One of these shells was subjected to water pressure, and was found to be practically indestructible, so far as the testing machinery then at hand was concerned.

LUMBER-HANDLING SCALE AT BUFFALO.

The charges for unloading lumber at Buffalo have been fixed by the Buffalo Lumber Exchange and the Stevedore Committee at the same rates as last season, as given below, subject to change in the fall. Contractors' certificates will be given to Jacob Feldman, Herman Feldman, Charles McCullough, William Seyfried, J. J. Neville, C. M. Torsell, and Hugh Sheridan.

C. W. BALDY, Sec'y and Treas.

WHITE PINE.

Log run, including strips and mill culls.....22c. per M.
Shorts40 " "
4-inch strips in lots, in hold.....32 " "

NORWAY.

1 to 2-inch inclusive, and not over 18 feet.....22c. per M.
3, 4 and 5-inch bill stuff.....28 " "
6-inch and thicker and car sills at a price to be agreed on, or can be unloaded by consignee.
Lath.....7 cts. per M
Shingles, 18 inch.....4 " " "
Shingles, 16-inch.....3 " " " Less 1/8
Cedar posts.....1 " per piece.

Bass-wood and elm.....25c. per M.
Ash, maple and oak.....35 " "

All barges and steamers over 12 feet hold to pay \$5 extra for each 6 inches, or fraction thereof, in excess of 12 feet. Boats with more than one cross-beam amidship or with overhead arches, 3 cents per thousand extra on the entire cargo.

It is very important that all shipments should be made under bills of lading, with the following endorsement:

"The consignee shall have the privilege of unloading this cargo by contractor or person selected from those authorized by the Buffalo Lumber Exchange, and at card rates approved by said Exchange."

Work on the coal dumping machine at Huron is going forward rapidly, and it will be ready for work by May 1. Ore dock repairs will be completed a month earlier.

SHIP BUILDING AND REPAIRS.

STEEL SCHOONER MARTHA LAUNCHED.

Special Correspondence to The Marine Record.

CHICAGO, March 10, 1896.

The large steel schooner Martha was successfully launched last Saturday afternoon at 2:50 o'clock at the Chicago Ship Building Co.'s yard, under the able direction of Manager W. I. Babcock. She was built for the Minnesota Steamship Co. Her dimensions are 352 feet keel, 366 feet over all, 54 feet beam, 26 feet molded depth. She will have a steam deck hoist and a Shaw & Spiegle steam towing machine.

WILLIAMS.

OTHER LAUNCHES.

The big steamship L. C. Waldo, built to the order of the Roby Transportation Co., was launched last Saturday at the yard of F. W. Wheeler & Co., West Bay City. The Waldo is 400 feet 9 inches over all and 380 feet keel by 48 feet beam and 28 feet depth. Her engines are 23, 37½ and 63 by 44 inches. She is one of the first if not the first lake steamer to install a system of induced draft. It is known as the Ellis & Eaves system.

The steamer City of Bangor, building for Eddy Bros. at F. W. Wheeler & Co.'s yard, will be launched next Saturday.

The steel tug building for the Duluth & Iron Range Railroad Co. at the Cleveland shipyard will be launched about April 1 and will be christened Edna G.

Wood, Skinner & Co., Newcastle-on-Tyne, are the builders of the new steamer Rosemont, for the Canadian Montreal Transportation Co. Her dimensions are 250 feet in length, 40 feet 9 inches beam, and 21 feet 3½ inches molded depth. She is being built so that she can be separated into two parts just forward of the machinery space. Her speed will be about 10 knots per hour.

The Michigan Boiler Works, of Port Huron, has just completed and shipped two Majestic Safety Water Tube Boilers, one for the Smith Bros.' new fish tug at Port Washington, Wis., and one for the fish tug of Theune & Eernisse Bros., at Cedar Grove, Wis. They were built for 174 pounds working pressure.

The Montague Iron Works Co., Montague, Mich., have received an order from Capt. W. H. Singer, of Duluth, Minn., for a 20 x 44-inch high pressure marine engine and an 8 x 14 feet marine boiler to be placed in the new tug being built at E. W. Heath's shipyard at Benton Harbor, Mich.

M. J. Steffens, of the Chicago Columbia Yacht Club, is having built at Saugatuck, Mich., a steam yacht to be named Laura S. The dimensions of the Laura S are: Over all, 85 feet; water line, 65 feet; beam, 14 feet. She will be equipped with one Warrington boiler capable of a working pressure of 250 pounds to the square inch. Her engines will be triple-expansion, equal to 200 horse power. Fifteen knots an hour are counted on under an ordinary consumption of coal. She is to be schooner-rigged and will carry a large spread of canvas in addition to her steam power. The yacht will be furnished throughout in the richest material obtainable. Her cost will be about \$40,000.

AT THE CRESCENT SHIPYARD.

The \$200,000 steam yacht Josephine, building at the Crescent Shipyard (Lewis Nixon, manager), Elizabeth, N. J., for Peter A. B. Widener, of Philadelphia, was launched on Wednesday of last week. She is one of the finest pieces of marine architecture ever seen in America. The Josephine is 225 feet long over all, and 183 feet on the load water line, by 28 feet beam, and 15 feet depth. She will have a mean draft of 11½ feet, and a displacement of 800 tons. She has a steel house 135 feet long and 13 feet wide, covered with mahogany. She will not bury herself in a sea, as she has 13 feet freeboard. There is a promenade deck, to be fitted with double awnings, fore-and-aft. Her engines are of the triple-expansion type, built by John W. Sullivan, and measuring 18, 27, and 42 by 28 inches. She will have two Scotch-type boilers, built by the Globe Iron Works Co., Cleveland, 11 by 14 feet, and tested to 175 pounds working pressure. Her electric plant will light fifty 16-candle power lamps, besides separating an Edison search-light and a refrigerating plant. Below deck are ten large state-rooms and a ladies' salon. The owner's apartments are at the after end of the deck

house. The Josephine's boat outfit consists of a 30-foot steam launch, a 21-foot naphtha launch, a 20-foot whale-boat, a 25-foot gig, and a 16-foot dinghy. She will be commanded by Capt. Fred C. Miller.

There are now employed at the Crescent shipyard 350 men. Work is progressing rapidly upon the new double-decked, double-ended steam ferry boat for the Camden & Philadelphia Line. She is framed and plated, and will be delivered next June. She will have a screw at each end. Four Almy water-tube boilers are in the yard, all in readiness to be placed in the new boat. Four of the 13 steel barges for the Cleveland Steel Canal Boat Co. are nearing completion. Each boat is 98 feet long over all by 17.10 feet beam and 10 feet depth. The ten tow barges will each carry 200 tons on six feet draft. The three steamers will each carry 125 or 130 tons. They will have 200 h. p. engines and Robert's safety water-tube boilers, 8x8 feet. Mr. Clarence Postley's yacht Colonia is being converted into a centerboard schooner. The stocks are ready for laying down the government's new gunboat No. 10, of 1,000 tons displacement.

THE REINA DE LOS ANGELES.

The Neafie & Levy Ship and Engine Building Co. expect to launch from their yards at Philadelphia next Saturday afternoon, the handsome and commodious steamer Reina de los Angeles, built for Menendez & Co., of Cienfuegos, Cuba, and is intended to carry passengers and freight between Batabano and Santiago de Cuba, and other ports on the south coast of Cuba.

The new vessel is fitted up in a first-class manner for 100 passengers. Her length is 244 feet; beam, 25 feet, and depth, 22 feet, with a gross tonnage of 1,300. She has twin screws, propelled by two vertical triple-expansion engines of 1,200 horse power.

The surface condensers are supplied with water by centrifugal pumps of a capacity of 120,000 gallons per hour. Three large independent pumps are arranged for fire, feed, and sanitary purposes. A complete modern electric light plant will be placed in lower engine room, furnishing search and incandescent lights. There are four steel boilers. She is the sixth vessel built by the Neafie & Levy Co. for the Menendez Co.

There is also being built, at the same yards, a steel steam lighthouse tender for the Mexican government, which will be ready for launching some time next month. The vessel will be similar in design to the United States steamship Maple, and will be 142 feet long, 25 feet beam and 11 feet deep. Her armament will consist of several very large and effective guns.

GENERAL REPAIR WORK.

CHICAGO.—At the Chicago Ship Building Co.'s shipyard the steam car ferry Ann Arbor No. 2 was in dock and had one of her shafts straightened and received repairs to her outboard coupling and sleeves. The steamer Havana is in dock for overhauling and recalking.

At Miller Brothers' shipyard the schooner C. C. Trowbridge is in dock for a general overhauling and recalking; tug Ira O. Smith for repairs to shoe and stern bearing and some calking; steamer Tom Adams for some new bottom planking, a new piece of keel aft, some general repairs, repairs to stern bearing and recalking. Considerable repair work is being done on the Anchor line steamers Delaware, Lehigh and Schuylkill; the Western Transit Co.'s steamers Boston, Harlem and Syracuse; and the Lehigh Valley line steamer Seneca. The steam yacht Sentinel is receiving general repairs and having her bow remodeled. The government light-house steamer Dahlia is at the derrick receiving new masts. The steamer Thomas W. Palmer is receiving some calking; the schooner Dundee some repairs and calking.

Capt. V. Harms has built a cabin on deck forward on the schooner Julia B. Merrill and has recalked her ceiling.

WILLIAMS.

CLEVELAND.—The steamer Yuma went into the Ship Owners' dry-dock Tuesday. Five plates had to be removed. The fish tug Markwell and the V. O. T. dredge are in the other dock for spring-overhauling.

At the Cleveland dry-dock the steamer Forest City is in for new keelsons. The Canadian steamer Erie went into dock Thursday morning.

BUFFALO.—The Thomas Maytham left dry-dock Friday, after getting considerable bottom repairs. The Conemaugh has been given a new stem and other re-

pairs. Capt. H. J. Davis, owner of the Wenona, is preparing to spend about \$1,500 on her. He will look after the work himself. The Rube Richards' boiler has not yet been shipped, and she will probably not get out at the opening of navigation. The new machinery of the Queen of the West is all in place. The St. Louis will be rebuilt above the water line and her machinery overhauled, all this costing about \$15,000. The other boats of the Crosthwaite fleet will be thoroughly overhauled.

PORT HURON.—The tug A. Sumner is in Dunford & Alverson's lower dock to have her wheel and shaft taken out and placed in the new hull now building for her machinery. She will be followed by the Britannic, which will then receive what repairs she needs in dock. The barge Montgomery will go into the dock for repairs.

E. J. K.

REPAIR NOTES.

The rebuilt barge Schilde is to be known as the Eureka.

The rudder of the steamer Majestic (Br.) has been enlarged at Collingwood.

The steamer City of Owen Sound (Br.) rebuilt, has been renamed the Saturn.

Reconstruction of the ferry steamer Hope, intended for the Niagara River trade, is in progress at Walkerville, Ont.

Wickes Bros., of Saginaw, have completed the boilers for the City of Bangor, but cannot deliver them at West Bay City until the ice leaves Saginaw River.

The tug Moore has gone to Gilmore's dry-dock for some work preparatory to setting out for Detroit for the Massasoit. George H. Breyman & Bros.' dredges, tugs and scows are being overhauled at this dock.

The rebuild of the tug Temple Emery, at Two Rivers, Wis., includes new deck beams and deck, covering-board, stanchions, and an entire new house, besides a thorough overhauling of machinery.

The fore and mainmasts of the schooner Evaline have been taken out and she will be equipped with a deck staysail, or what is known as the Grand Haven rig. The old spars will be replaced after the necessary changes are made.

It is said now that while the damage to the Selwyn Eddy, in dry-dock at the foot of Orleans street, will amount to more than \$15,000, yet every one of the plates and frames which she bent so badly when she fetched up standing in the Soo River, can be straightened out and replaced in her bottom.

The tug North Muskegon, which is on the boxes at Manitowoc receiving a thorough rebuild, will have a new boiler 6½ feet in diameter, 12 feet long, and will be allowed 140 pounds of steam. The tug Golden, which is also at Manitowoc, is to have a new boiler 7 feet 4 inches in diameter, 12 feet long and to be allowed 140 pounds of steam.

F. & P. M. PLANS.

Special Correspondence to The Marine Record.

WEST BAY CITY, March 10.

A great deal of the matter printed lately about the marine interests of the Flint & Pere Marquette Railroad Co. has been badly twisted. F. W. Wheeler & Co. are not to take the No. 1 in part payment for the car ferry steamer, the contract being free from any riders of this sort. A syndicate is being formed to buy the No. 1, and the transfer will probably be made early in the season if all goes well. Attempts are being made to charter her or one of the other boats into other transportation lines. The company is interested in projects to deepen harbors at Ludington and other ports, but not with the intention of building any more wooden steamers. The boats now owned by the F. & P. M. are not adapted to their present uses. They were originally built to accommodate some passengers, and as a result have too much top hamper to be useful in their present trade, and remodeling would cost too much. The management is now inclined to favor metal construction, and if they can dispose of their steamers to other lines in whose trade they would be more useful, orders would be placed for steel steamers so arranged that they would carry large cargoes on comparatively shallow draft.

Capt. W. S. Mack and Capt. George P. McKay are at Ottawa, Ont., this week, pressing the claims of commerce against the Detroit River bridge. They are receiving the hearty co-operation of the Canadian Marine Association, which is represented at the hearing by its secretary, Capt. J. V. Trowell and others.

CORRESPONDENCE.

We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

AMPLITUDES.

To the Editor of The Marine Record:

A few years ago I announced a property of amplitudes that prevail in latitudes above about 40° to 41° , that is of much importance to navigators on the Great Lakes, and on the northern part of our Atlantic coast, and that is:

Above the latitudes mentioned, the rate of change in the bearing of the sun, from the time of his rising to the time of his crossing the prime vertical, or due east point, and for about 30 to 40 minutes after, is uniform. Also, in the afternoon, from about the same time before his crossing the prime vertical, due west point, to sundown, the same law prevails.

But, by those who had no azimuth tables at hand for verifying this idea, it was received with some incredulity.

On calling the attention of Commander Sigsbee, of the United States Hydrographic Office, at Washington, he immediately saw the great utility that would result from such a law, and proceeded to have it investigated, and, finding it strictly as I had announced it, he proposed to have it published for the benefit of navigation on the Great Lakes, but checked himself on reflecting that there was no appropriation available at present for the purpose.

This change of bearing for lapse of time is at the rate of 1° in $6\frac{1}{4}$ minutes of time, for the extreme southern portion of the Great Lakes area, and at the rate of 1° in $5\frac{3}{4}$ minutes for the northern part of Lake Superior, so that no material error can result by assuming it to be at the rate of 1° in 6 minutes for the entire lake region.

Thus, say on a given day, the sun's amplitude is $E. 15^{\circ} N.$, or better, $N. 75^{\circ} E.$, which is his bearing reckoned from the north, for a given latitude. Then in 30 minutes it would be greater by 5° or its bearing would be $N. 80^{\circ}$. In one hour more it would be $N. 90^{\circ}$, that is, it would be on the prime vertical, or due east. And, as stated, this uniform rate of change continues some 30 minutes past the prime vertical, thus giving us full two hours, during which we know the bearing of the sun at any moment with the same certainty that we know it at sunrise, giving us ample time in which to swing ship, either for compass errors or for adjusting compass—whereas without such property the simple amplitude would not be available for more than about 10 minutes—a time totally inadequate for more than a single observation.

In Lat. 43° the above amplitude would occur about the 17th of April. This time interval, during which an amplitude is available, increases till the summer solstice or the 21st of June—or a little more than two months, when it is nearly 4 hours—after which it diminishes till the autumnal equinox, about the 21st of September, when the sun rises on or near the prime vertical, and when we have only the half hour after his passing the east point, for utilizing an amplitude.

This same law, as has been stated, prevails in the afternoon, but as there is no visible point, as in the morning, to reckon from, it is not so readily available.

To avail ourselves of this law in the afternoon, we must know the error of our watch to the nearest minute. We must be expert in deducing local mean time from standard time, and apparent time from local mean time, and in deducing difference of time from difference of longitude.

This would doubtless be "too much" to ask of our average ship masters, and will be too much to ask of them till we have in the office of the United States Inspector General of Steam Vessels, in Washington, some one who knows the importance, nay, the necessity that our ship masters on the Great Lakes shall have a good expert knowledge of a few of the elementary problems of navigation, as of finding compass errors, and of how to deduce true courses from a directed compass, instead of depending on the "compass expert," and on the "stranger from abroad," as at present.

But, to the man who is smart enough to be out in time to see the sun rise, noting the time as indicated by his watch, the problem is wonderfully simple. He may not know the error of his watch—or whether it is fast

or slow—but he must know that it runs parallel with mean time.

Example: Say a ship master, at Cleveland, on some morning early in May, finds the sun's declination to be 15° , and the corresponding amplitude to be $E. 20^{\circ} 23' N.$ Changing this to bearing, we have the direction to the sun at sunrise, to be $N. 69^{\circ} 37' E.$, or say $N. 69\frac{1}{2}^{\circ} E.$ He also observed that his watch indicated 5 hours 15 minutes at sunrise, and he has learned that the sun goes south in bearing, at the rate of 1° in $6\frac{1}{4}$ minutes for that latitude, whence he may know at any minute, for some time, the bearing of the sun with the same certainty as he knows it at sunrise.

Then multiplying the amplitude $20^{\circ} 23'$ by $6\frac{1}{4}$ minutes, we have 127 minutes, or 2 hours and 7 minutes to the time of the sun's crossing the prime vertical, or due east point, thus giving the master more than two full hours in which to swing ship, or ample time with a good dumb compass, to take a full round of compass readings, corresponding to true courses, or to adjust his compasses.

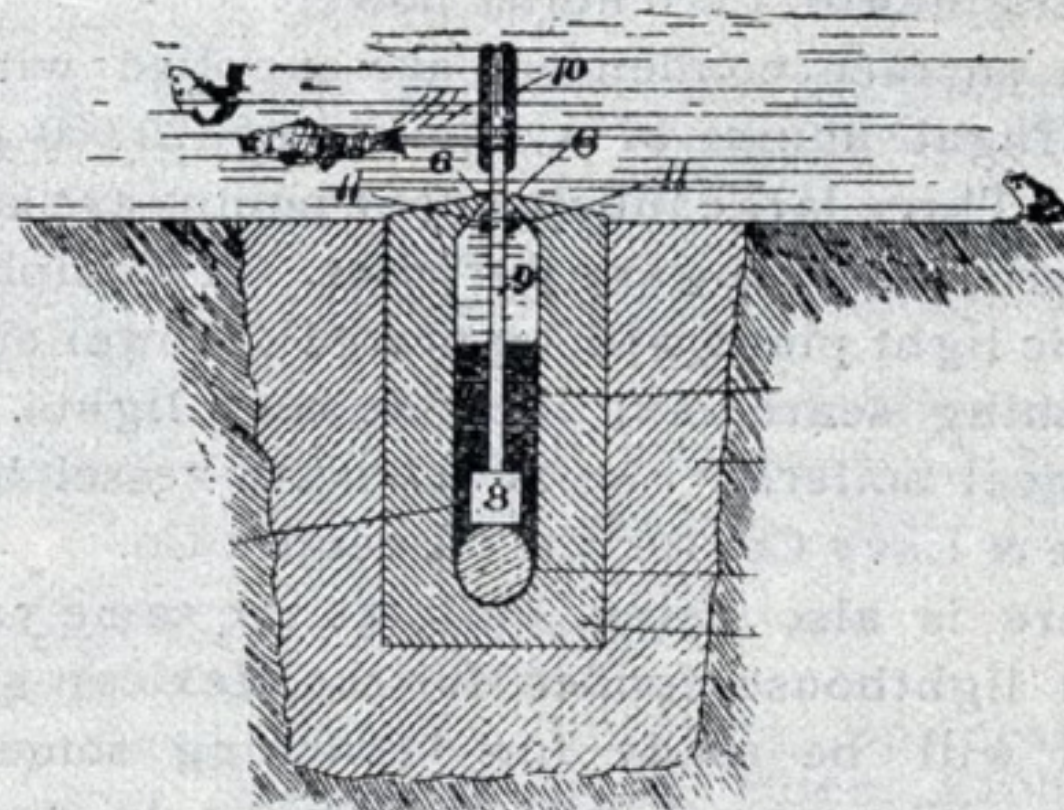
A round of compass readings corresponding to the magnetic courses is better than compensation, because it is rarely that a compass can be so adjusted or compensated that there will not be some error remaining in the quarters.

H. C. PEARSONS.

PERRYSBURG, MICH., Feb. 29, 1896.

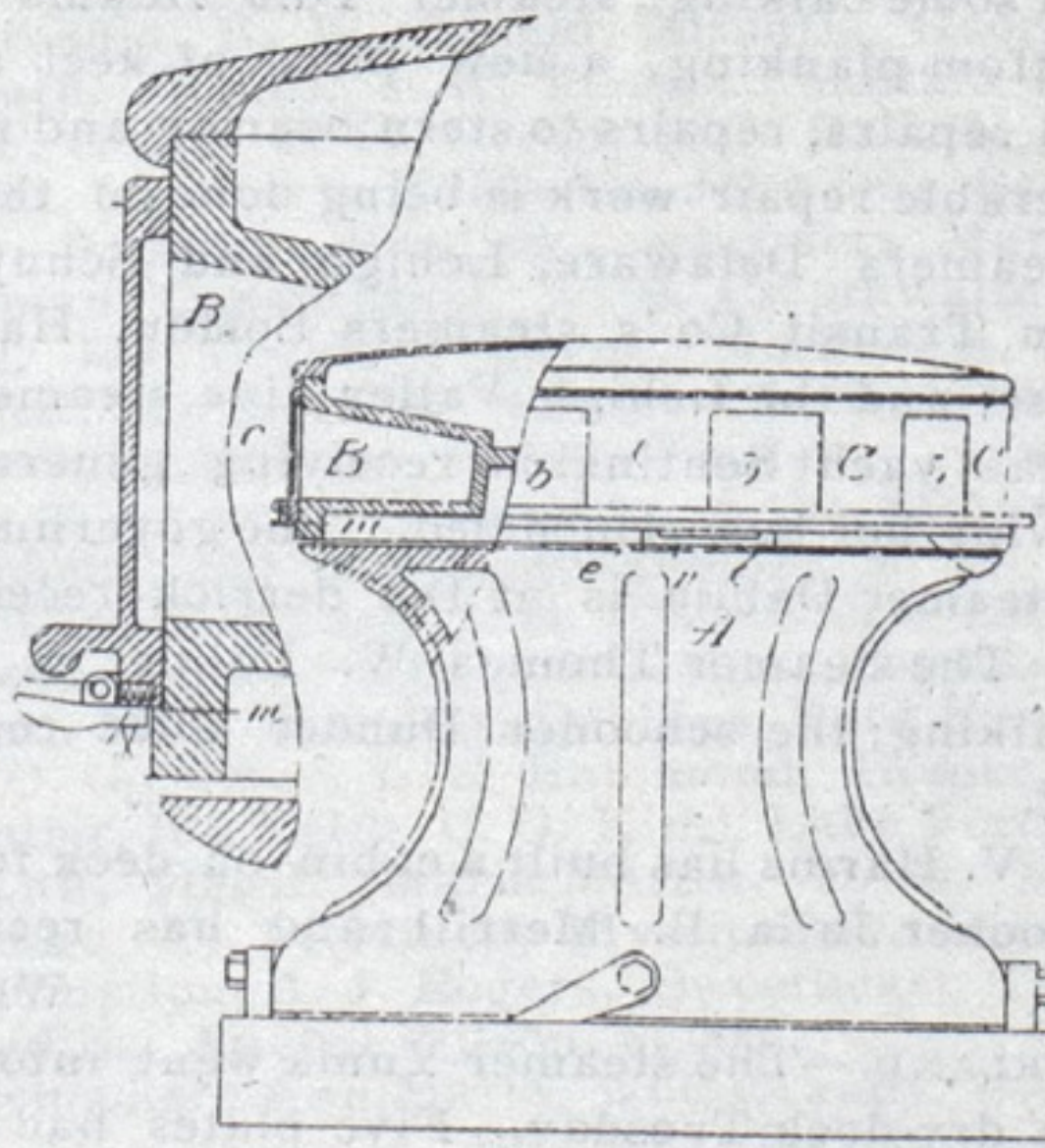
NEW INVENTIONS.

Ernest A. Le Sueur, of Ottawa, Can., has been struck with the idea of a downward contact trolley system for canal boat operation, and has secured a patent (No. 555,252) for which he made application March 26, 1894. His device consists of a conduit located beneath the surface of the water, and below the depth of draft, a conductor



within said conduit, insulating fluid of greater specific gravity than water within said conduit, and a contact or collecting device electrically connecting said conductor with the current using device of the vessel.

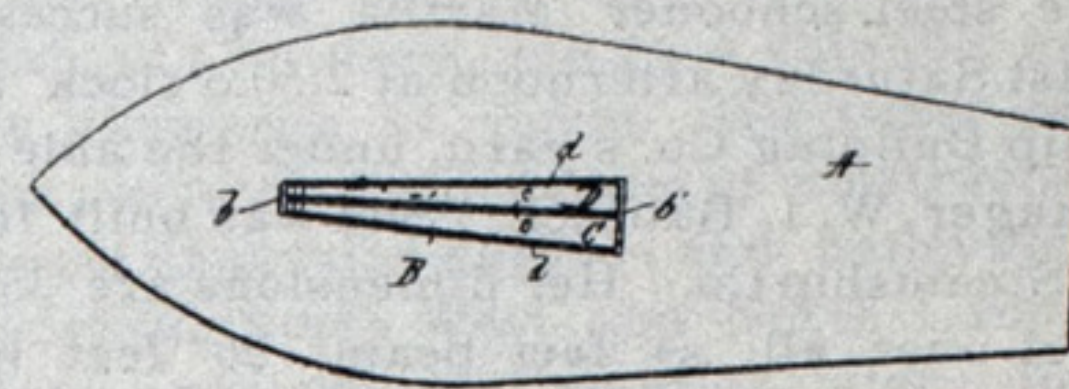
Charles A. Potter, of Providence, R. I., has patented a capstan attachment (No. 555,121) all rights to which he assigned to the American Ship Windlass Co. The claim is for the combination with a capstan provided with sockets or pockets, adapted to receive an operating bar or lever, of a ring bar hole cover having openings corresponding with the sockets in the capstan, and arranged to enclose that portion of the capstan which is provided



with such sockets so that by a turning movement of the ring bar-holes cover its openings may be placed opposed the corresponding sockets in the capstan, or by a return movement the solid parts between the holes in the ring for cover will form suitable covers for the sockets in the capstan, to keep dirt out of the interior machinery. The device also includes a locking arrangement.

Frederick R. Kruse, of Piermont, N. Y., has patented

(No. 555,250) a Centerboard for Yachts or other Vessels. The claim is for the combination with a boat having a well B, therein provided with two inclined sides, whereby said well is wider at its rear end than at its forward end, of two centerboards pivotally secured in the forward



ward end of said well, each of said centerboards being tapered from the forward to the rear ends, the inner sides being arranged adjacent to each other and in line with the keel, and the outer sides at an inclination thereto.

TRADE AND INDUSTRIAL NOTES.

Thomas R. Harvey has issued neat circulars inviting vessel owners to participate in the benefits of his new marine reporting system at the Sault during the season of 1896, the steam yacht Waupoose affording advantages additional to those heretofore afforded by Harvey's Marine Bureau.

The Totten & Hogg Iron and Steel Foundry Co., of Pittsburgh, has just closed a contract with the Ironton Structural Steel Co., of Duluth, Minn., for a 36-inch blooming mill. The company is now shipping to the same concern a special mill for rolling beams and a pair of reversing engines, together with a lot of special rolls.

Several records were broken in the steel plants of the Ohio Steel Co., at Youngstown, O., last week. On Tuesday 269 ingots were rolled, and Tuesday night 282 was the output, equaling any previous 12 hours' work. On Wednesday night 303 ingots were rolled, amounting to almost 750 tons.

The Forsythe Pattern Works, of Youngstown, Nate Forsyth, manager and proprietor, manufacturer of machine and architectural patterns of all kinds, has plenty of work on hand, keeping about twenty-five men working continually. The work consists of all the patterns for a large movable dam to be constructed in Texas; also a number of patterns for boiler fronts for Wm. B. Pollock & Co.

J. S. Mundy, Newark, N. J., has ready for distribution a pocket edition of his very complete catalogue of hoisting engines, steam boilers, etc. The book is copiously illustrated and contains over 70 pages. It is just the right size to carry in one's pocket without being in the least bulky or in the way. Copies, we are informed, will be forwarded engineers, contractors and others interested upon application, mentioning the MARINE RECORD.

BUFFALO, Jan. 31, 1896.

H. G. TROUT, Esq., Buffalo.

DEAR SIR: I have used four of your wheels on tug "A. I. Holloway," and they have proven very satisfactory. In making a run of 13 miles, towing a sand screw, we save 20 minutes per trip with the scow light, and 25 minutes per trip with the scow loaded, and we do this with less fuel than we used before. I can safely say that yours is the best wheel we have ever had on this tug. Yours truly,

J. B. GAMBLE, Captain.

LARGE CARRIERS FOR THE EAST.

The Peninsular & Oriental Co. have placed orders for two twin-screw cargo-steamers capable of carrying about 9,000 tons deadweight, one with the Palmer's Ship Building & Iron Co., Jarrow, and the other with Caird & Co., Greenock. The vessels will be built to the highest class at Lloyd's, and will have engines capable of developing about 4,000 i. h. p., which will enable the vessels to maintain a speed of fully 12 knots at sea. This is quite a new departure for the P. & O. Co., and is another indication of the fact which I have frequently stated in Fairplay, that the shipping industry is gradually, but surely drifting into strong hands. And that the cargo-carrying trade will in future be mainly done by the large companies. These are the twin-screw steamers the P. & O. Co. have contracted for. No doubt if the experiment is successful the company will build others of similar design, and Messrs. Palmer and Caird are to be congratulated on having secured the first of the type.—Fairplay.

IN THE ENGINE ROOM.

IT PAYS TO COVER STEAM PIPES.

Albert Haacke has fitted up an apparatus for measuring the amount of heat lost by radiation from steam pipes, and has published the results of some of his first experiments. The tests were directed to determine the relative losses of heat from (1) bare pipes; (2) pipes covered with one inch of composition, and (3) pipes covered with one inch of composition and three layers of hair felt. The testing surfaces consisted of three cast iron steam pipes of five inches internal diameter and six feet long, with blank flanges on each end. Those test pipes are supplied with steam that has been dried, and are placed so as to be subject to radiation and convection under precisely similar conditions, one being bare, the other covered with composition one inch thick, the third with one inch of composition and three layers of No. 3 felt, each one-half inch in thickness. The result of experiments with steam in the different pipes under pressure of from 45 to 60 pounds upwards goes to show that a covering of composition one inch thick saves out of a possible loss of 100 per cent as much as 83.57 per cent, and if over this covering $1\frac{1}{2}$ inches of hair felt with canvas is added, the extra saving is only 8.25 per cent. If one pound of coal is required to evaporate eight pounds of water into steam of 60 pounds pressure, then $6\frac{1}{2}$ cwt. of coal are required every year to make good the loss of heat from every square foot of uncovered steam pipe. This loss is even greater in winter, or when pipes are exposed to cold air, or where steam of high temperature is used.—Improvement Bulletin.

STEEPLE COMPOUND MARINE ENGINES.

There are numerous small steam craft doing business on salt water in which one of the "pretty" but lightly built compound yacht engines is somewhat out of place and a useless extravagance. We refer in particular to the all around, steady going, hard-working and money producing boats that require substantial, easily operated, condensing machinery; the economical kind that can be relied upon at all times with absolute certainty; boats for general utility and continuous service, in which cargo space, fuel space, and even passenger room is of especial value.

For such craft in particular is this Steeple Compound Engine designed and built by the Marine Iron Works, Chicago, as here described and illustrated.

The outline sketch (reduced from scale drawing) shows for itself to the engineer and requires no particular explanation from us further than to say that all proportions and bearings correspond with the crank and crank-pin dimensions given in the table.

It will be seen that access to the stuffing boxes, between cylinders, is provided for and that the greatest weights to these engines are low down, requirements so manifestly simple, that our only excuse for mentioning them, is the prejudice against the old type of steeple engines, that in small sizes, especially, omitted one or both of these very essential features.

That perfect rigidity of framework is of importance to any engine of this character is obvious, and this one has it to a noticeable degree, the design alone permitting it to a greater extent (sizes considered) than any other form.

The high-pressure cylinder is fitted with balanced piston valve, the low pressure cylinder with slide valve. All rods are made from steel forgings and the boxes and cross-head gibs are the best of bronze composition.

The crank shaft is made from a solid block of hammered steel, with crank cheeks of liberal proportions, while the disc counter-balances are accurately adjusted to equalize the weights.

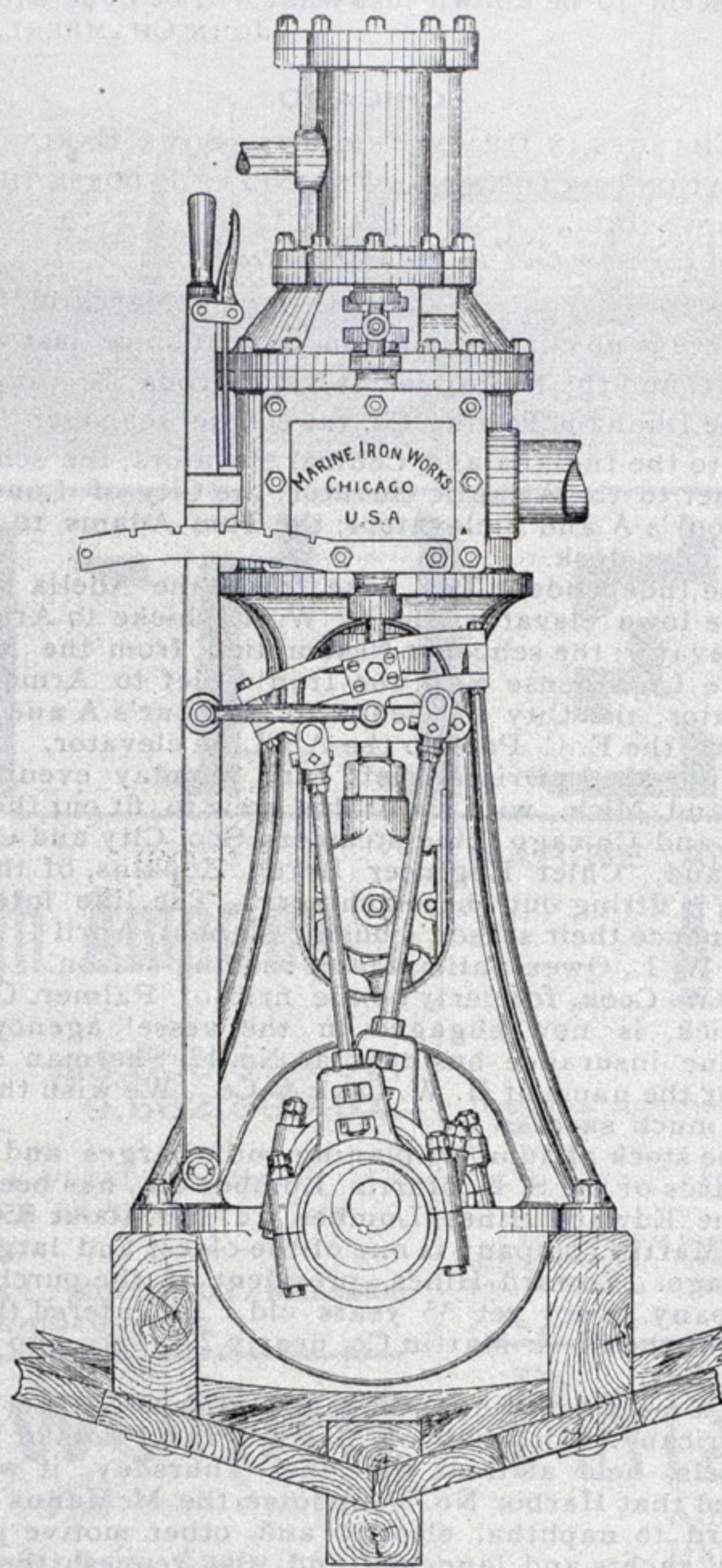
For general work and with steam pressures of 140 to 160 lbs. the best proportions for propeller wheels on these engines are as given in the following table:

DIMENSIONS.

No.	Diameter of Cylinders.	Stroke.	Height above timbers.	Diameter above Crank Shaft.	Crank-pin.	Diameter of Wheel.	Pitch of Wheel.
1	$5\frac{1}{2}$ —10	5	5 ft.	$2\frac{1}{4}$ inches.	$2\frac{1}{4} \times 3$	34 to 37 inches.	48 to 54 inches.
2	7—12	8	5 ft. 6 inches.	4 inches.	4×5	44 to 46 inches.	56 to 60 inches.
3	8—14	10	5 ft. 10 inches.	$4\frac{1}{2}$ inches.	$4\frac{1}{2} \times 5\frac{1}{2}$	52 to 56 inches.	66 to 72 inches.

The larger wheels (in diameter) are for towing. The Marine Iron Works make a line of sectional blade propeller wheels, in sizes ranging from 48 inches to 72 inches diameter; the "pitch" or "lead" of these wheels being adjustable (at the time the wheel is built) to meet the exact requirements of each particular case, and frequently one hub is fitted with two sets of blades, one set being for heavy work, such as towing, freighting, etc., the other set for speed, or cruising, as the case may require; a sufficiently convenient arrangement for many boats, to more than offset the higher first cost of such wheels.

Very thorough and yet simple arrangements are provided for taking up the wear, and even the minor wearing points receive the same careful attention that is given to the most important parts. The oiling devices are so arranged that every part of the engine may be



STEEPLE COMPOUND MARINE ENGINE.

BUILT BY MARINE IRON WORKS, CHICAGO.

conveniently lubricated while it is running full speed.

The ample bearing surfaces and rigid proportions for easy action, insure long life.

EMPEROR WILLIAM of Germany, on Feb. 28 gave an audience to Col. Ludlow, Military Attache of the American Embassy in London, who has been inspecting the Corinth and North Sea Canals. The meeting was in response to an invitation from the Emperor, who requested Col. Ludlow to come from Kiel to meet him. He is receiving every facility at the disposal of the military authorities in the pursuit of his mission of inspection and is the recipient of the exceptional courtesy and honor of being permitted to inspect the artillery drills, the military school, and, in fact, all of the details of the German Army.

THE CASE OUTWARD-THRUST PROPELLER.

Mr. A. Wells Case, of Highland Park, Conn., is the patentee of "Case's Perfected Outward-Thrust Propeller Wheels." During three years of severe tests, Mr. Case has come in contact with the best propellers made in this country, and on vessels that had previously been subjected to extensive propeller tests. The very names and characters of the firms that are now the makers of his wheels—the Harlem & Hollingsworth Co., the Gas Engine & Power Co., S. F. Hodge & Co., the Globe Iron Works Co., The Lockwood Mfg. Co., East Boston, Mass., The Atlantic Works, East Boston, Mass., the Bertram Engine Works Co., the Maryland Steel Co., and the Marine Iron Works, Chicago—some of them previously makers of famous propeller wheels—show that real merit is inherent in the Case propellers. In a circular just at hand Mr. Case says: "I have no hesitancy in predicting that the first steamer crossing the Atlantic in five days will do so with the Case wheel." Results justify this confidence.

There may be some division of opinion as to whether or not the steam yacht Vamoose is the fastest vessel of her kind afloat, but there is none who disputes that she is one of the fastest. Last year the Case wheel (Model D) made a run of a knot in 2 minutes $21\frac{1}{2}$ seconds on the Vamoose. The Case propeller was $10\frac{1}{2}$ seconds faster than one of the other wheels, and $14\frac{1}{2}$ faster than the other.

The lake steam yacht Bonita, owned by Mark Hopkins, has, it is said, had as many as thirty different types of propellers tested on her. Before permitting Mr. Case to try his propeller he was required to agree to defray all costs of the experiment, inclusive of dockings, and taking off and putting on propellers, unless he gave an increased speed of $1\frac{1}{2}$ per cent. His wheel made 5 per cent. greater speed. It has been paid for, and is still on the Bonita.

Instances might be multiplied, with similar showings. The crack steam launch Glad Tidings, of Alton, Ill., carries a Case wheel which beat the best one furnished to that boat up to that time, and her owners write that the Case wheel backs faster than any other they ever tried, also. The owner of the launch Idlewild, of Syracuse, N. Y., reports a gain of 2 minutes 57 seconds with a Case wheel, in a 5-mile run, over the one that was previously on that launch. The owner of the Vanita, of Woburn Mass., tried the Case wheel on his boat, and declared it to be a "dandy," sending a check in settlement even before he had made comparative tests. The Toxotes, of Hartford, Conn., made about 50 minutes better time on a run of $58\frac{1}{2}$ miles with a Case propeller than she had ever done with other wheels, and her owner writes Mr. Case that he thinks he can do better yet. The owner of the Boies, of Des Moines, Ia., says the Case propeller on his boat gives him more speed than ever able to get from other wheels, and Messrs Clay & Torbenson, of Gloucester, N. J., on July 16, 1895, wrote to Mr. Case saying: "We have just finished the test of the propeller wheel, and find that your propeller was eight seconds faster than our own in a one-mile run." A similar gain on a run across the Atlantic would reduce the time by six hours forty minutes.

In the whole domain of marine engineering nothing is so alluring, either to experts or amateurs, as experiments with propeller wheels. No single equipment of a steamer has had more patent grants for it than for propellers. And yet the Case wheel throws all theories to the winds, says that the rearward thrust is mechanically and scientifically unwise, in that it is not against solid, but against receding water, whereas with the outward thrust the resistance is always against solid water, and the cant of his propellers toward the hull instead of from it, or forward instead of abaft a perpendicular line (as will be noted in the illustrations in the advertisement on page 11) are so radical, and yet so successful, that the experts are completely nonplussed.

San Francisco M. E. B. A., No. 35, has chosen officers as follows: President, George R. Kingsland; First Vice President, Thomas Malcomson; Second Vice President, Frederick Nixon; Recording and Corresponding Secretary, Wm. Warin; Financial Secretary, Frank Bragg; Chaplain, Edward Bradley; Conductor, Joseph Dolan; Doorkeeper, Wm. Wiggins; Outer Doorkeeper, Chas. Schoppe.

NEWS AROUND THE LAKES.

BUFFALO.

PACKAGE FREIGHT LINES PREPARING TO CHARTER ADDITIONAL BOATS—SELLING OLD TIMERS.

Special Correspondence to The Marine Record.

BUFFALO, March 10, 1896.

There is the same uncertainty hanging over the lake business that has prevailed so long, but vessel men are for the most part feeling as hopeful as ever. The offered rate on ore is still refused as bravely as it was a month ago, though it does appear that the ore men are not sounding the market for tonnage as generally as they were a few weeks ago. Whether they are holding off for vessel men to come to them or have concluded to wait till they must have tonnage does not appear.

There is a wail from the lumber carriers that does not speak for good opening rates. Lumbermen are not in need of tonnage and not many of them will care for any at the opening of navigation. In fact it is reported this week that most of the lumber that is to be shipped early will be taken on hand by the mills and put into bottoms that are controlled by them, all of which goes against a satisfactory early rate. There is still hope of a good early rate from Duluth; but if the weak-kneed vessel men do not stop offering their boats at a rate away below the coveted \$2 to Lake Erie there will not be a rate to start with worth mentioning.

There is at least one lumber shipper who wants tonnage. George W. Stevens, who has just established himself at Black Rock to handle the 30,000,000 feet of the Arthur Hill cut at Midland, is bringing it in by rail in order to relieve the mill docks so as to get to work on the new cut. Of course he will ship by water as soon as the lakes open.

There is a stampede to the new Ellicott Square block. The Union Steamboat, Union Transit and Soo lines are already to go, and the lake line commissioner's office is expected to follow. The Anchor line will stay on the dock, but in order to keep the boys contented the whole establishment is undergoing a thorough renovation, which includes any amount of new partitions and not a little new carpeting. The old Atlantic dock offices never looked as well as they will when the new work is all in.

David Bell has got the hull of the new 70-foot steel yacht building for George Moon all in frame and will plate it at once, in order to launch her for the early seasons business. He has another one about 50 feet long that is about finished. She has not been sold yet.

W. J. Conners has appointed John Bowen for his superintendent in Chicago, Capt. Austin A. Phelps in Milwaukee, and W. M. Kelley in Gladstone.

Following are the Buffalo stevedore appointments: Lehigh Valley dock—George Roach, John Kelly, John Lenahan, James McCarthy, John Jordan (timekeeper), William Fogarty; Erie dock—Albert Grasser, Mike Desmond, Will Desmond, William O'Connell, John Kirby; Central dock—Frank Murray, George Dalton, Richard Dulton, Henry Kuhn, Richard Patton, John Sullivan, Michael Holland, Dennis Leary, John Maher (timekeeper); Lackawanna dock—D. J. Sullivan, Simon Crotty, William Williamson, Christ Sweeney.

The steamer Sitka, which discharged her flax seed here last week, had about 30 bushels wet, but came out all right generally. The Topeka follows her to the elevator. She has been on the bottom so long that she is likely to have considerable wet grain.

Preparations for rebuilding the Cleveland & Buffalo dock at the foot of Illinois street are in progress. The work of tearing away the old dock has begun and timber, piles, etc., are arriving.

The most interesting local news that came out last week was the appointment of Capt. Samuel Golden as master of W. J. Conners' \$65,000 steam yacht. There was a great stack of applications for the place, but no one appears to have guessed who the man would be. Capt. Golden may well congratulate himself for distancing all competition in the race. The appointment leaves a vacancy in the steamer Wyoming.

There is still much interest of a negative sort in the tug changes at other lake ports. Nothing has been done here, but there are plenty of indications that the old style of two harbor lines is not to last forever. It looked at one time as though the move towards consolidation of all lake tug business was coming here this season, but it turned out not to be quite strong enough to accomplish all that was undertaken at the other ports and Buffalo escaped entirely. But centralization is in the air and is bound to come.

There is quite a bit of traveling still going on. Manager Bullard has gone to Florida this week. Being an old sailor he of course took the steamer from New York to Jacksonville. Manager Evans sailed for home from Liverpool last Saturday on the St. Paul. W. J. Conners has gone to Hot Springs.

There are still rumors of a new lake line flying about, but it will not materialize yet. The prospect is that something will be done this week if it is at all, but it has hung fire so long that there is no saying when the thing is to be done or given up for good.

There is reason to fear that the Detroit River bridge bill is going to get away from the vessel men after all and become a law. If there was anything behind it for the Vanderbilt interests it would surely go, but the fact

that not a single road has taken enough interest in it to write a letter in its support, has been an element of great weakness in the project from the first. The Canadian interests are banding against the same bill at Ottawa.

There is likely to be a lively placing of wild boats in the package freight lines within the next ten days. There are at least half a dozen lines that want additional boats and will be much more eager to get them than they were last spring. Still scarcely a single line has completed its fleet and there is considerable speculation over the matter, especially since the Soo line got rid of its whalebacks and cut into the Lake Erie and Clover-leaf lines to make itself good.

The Lehigh line will make some effort to sell its wooden boats, but there is no particular expectation of getting rid of them this year.

Buffalo parties have sold the schooner A. C. Maxwell to Carpenter, of Port Huron, in trust for others. She is at present in bad shape at Milwaukee, where she went ashore last fall. It is expected that she will be rebuilt by the Jenks Shipbuilding Company, but it does not seem to be known just what will be done with her.

JOHN CHAMBERLAIN.

CHICAGO.

NO CHANGES IN GRAIN FREIGHTS—SOME EARLY PREPARATION FOR OPENING—ENGINEERS INDORSE THE MC-MANUS BILL.

Special Correspondence to The Marine Record.

CHICAGO, March 10, 1896.

There is no change in grain freight since last week's report, and the feeling is not very strong.

The Dunham Towing Co. towed the schooner Fanny Neil to the Indiana and Central elevators; the schooner Mosher to the Atlantic elevator; the City of London to Armour's A and B elevators; the Tom Adams to Miller Bros.' dry-dock.

The Independent Tug Line towed the Adella Shores to the Iowa elevator; the C. W. Elphicke to Armour's E elevator; the schooner Resumption from the Market to the Lighthouse Slip; the Iron Chief to Armour's C elevator; the City of Genoa to Armour's A and B elevators; the E. C. Pope to the Air Line elevator.

Capt. M. J. Driscoll left here Monday evening for Holland, Mich., with six of his crew to fit out the Holland and Chicago Line steamers Soo City and City of Holland. Chief Engineer Byron Hopkins, of the Soo City, is fitting out the machinery. The line intend to commence their season's business about April 1. Manager W. L. Owen anticipates a rushing season.

H. W. Cook, formerly of the firm of Palmer, Cook & Calbick, is now engaged in the vessel agency and marine insurance business at No. 12 Sherman street, under the name of H. W. Cook & Co. We wish the new firm much success.

The stock of lumber, planing mill, barges and lease of yards of the S. K. Martin Lumber Co., has been sold to the Edward Hines Lumber Co. for about \$500,000. The Martin company is one of the oldest and largest in Chicago. Edward Hines, president of the purchasing company, is not yet 35 years old. He entered the employ of the S. K. Martin Co. nearly 20 years ago as an office boy.

At a meeting of the Chicago Harbor No. 33, of the American Association of Masters and Pilots of Steam Vessels, held at their hall last Thursday, it was resolved that Harbor No. 33, indorse the McManus bill in regard to naphtha, electric and other motive power, small yachts and launches, and also request their Illinois Congressmen to act with them in order to prevent accident and probable loss of life which must inevitably result from the handling of such craft by unlicensed and inexperienced men.

The following appointments have been made to Bigelow Bro.'s fleet: Steamer Madagascar, captain, John Jenks; chief engineer, F. L. Fitzgerald; schooner Fanny Neil, captain, Chas. K. Moore; schooner S. M. Stephenson, captain, John Cowan.

WILLIAMS.

DULUTH AND SUPERIOR.

NAVIGATION NOT LIKELY TO OPEN AT THE HEAD OF THE LAKES BEFORE APRIL 15—AN INTERESTING DISCUSSION OF THE FREIGHT SITUATION.

Special Correspondence to The Marine Record.

DULUTH, March 10, 1896.

It was announced this week that A. B. Wolvin will be agent of the Western Transit Co., at Duluth, vice A. L. Evans, who will be transferred to some other point for the same company.

The Smith-See Co.'s fishing tug Eviston, made the first fishing trip of the season this week. She went out from Two Harbors and set nets along the north shore. She made one haul and got a goodly-sized catch. No ice of any consequence was encountered.

There is now in store in the elevators here 15,457,773 bushels of grain of all kinds. In addition to this there is 512,000 bushels of wheat afloat in the harbor. Secretary Wyman, of the Board of Trade, estimates that there is still 40,000,000 of the last crop of wheat remaining in the farmers' hands in Minnesota and the Dakotas. All of this will find its way to the head of the lakes eventually.

Although the past week was expected to develop

something definite in the iron ore and vessel situation, it did not. Beyond the weakening in the wheat rate the week was uneventful. The wheat rate has reached 3c in its downward tendency, but there are reasons to believe that the opening will not be under that unless the opening of navigation should be very early. Three-cent wheat, \$1.15-ore and \$2-lumber for the opening. The range of talk relative to Lake Superior ore charges certainly look like a fair prediction at this time. Rates are \$1 to \$1.15.

The lumber shippers of Duluth are more concerned than any other class regarding rates. No charters have been reported, and shippers do not want to pay more than \$1.75 to Lake Erie, while the asking rate is \$2.

Vesselmen are exceedingly wary this season, being of the opinion that the early offering of considerable tonnage last year was responsible for the low figure on opening freights. The late weakness in the wheat rate and the uncertainty surrounding the opening rate on ore affords encouragement for lumber shippers. There is a large amount of lumber on Duluth docks to go forward—80,000,000 feet at the least calculation—but unless the rates are favorable, the shipments will be light during the early part of the season. Considerable of the lumber already sold is to be paid for on delivery, and, as the Buffalo yards contain good assortments, the lumbermen appear to be in a position to wait a while. About 51,000,000 feet of Duluth lumber, sold last year, to go forward before the close of navigation is included in the 80,000,000 feet to go forward this season. That amount was held over owing to the high vessel rates which prevailed in the latter half of the season.

Several important sales of standing timber have been made in the vicinity of Tower, Minn., during the past week.

The new ore docks of the Duluth, Missabe & Northern Railway Co. are rapidly nearing completion. It is expected that they will be ready for shipping purposes by the opening of navigation.

Wheat in store at the head of Lake Superior is apportioned among the various terminal elevator lines as follows:

Belt Line	1,277,525
Consolidated	3,579,397
Globe	5,227,413
Great Northern	847,640
Superior Terminal	1,415,425
Consolidated B.	293,489
Consolidated H	93,068

Aggregate	11,733,967
At Minneapolis	19,060,515

The chances for an early opening of navigation at the head of the lakes have been greatly lessened during the past week. Toward the end of February open water extended to within a mile and a half of the harbor. Heavy gales prevailed February 29, and the first week in March the weather turned several degrees colder and ice formed rapidly, for several miles out, until now the ice field promises to become very extensive. It is not believed now that navigation will be open any earlier than April 15.

E. E. B.

PORT HURON.

NOTHING BUT ICE AT THE FOOT OF LAKE HURON—THE COSGROVE CASE—SOME HISTORY.

Special Correspondence to The Marine Record.

PORT HURON, March 10, 1896.

There is a great deal of ice at the foot of Lake Huron. As far as the vision extends there is nothing but ice, and the last northwest winds have packed it in very hard.

Capt. Peter Olson, of the North Manitou Island life-saving station recently found a bottle on the beach at the southeast point of the island. It contained the following on a piece of paper: "Aug. 15, 1895. Schooner C. J. Johnson sprung a leak and sank about off Frankfort at 11 p. m. No chance for life. Mate Dave Murray, Port Huron." The records of the weather bureau show that there was no storm on Lake Michigan on Aug. 15, and Murray is at present enjoying life immensely at Port Huron.

The trial at Sarnia of Capt. Cosgrove, of the schooner Aurora, for taking his boat away from Detroit while it was in the hands of the U. S. Marshal, came up last Wednesday at Sarnia, but was adjourned for one week, Capt. Cosgrove giving \$100 bail for himself and \$50 each for Joseph and Wm. Glass, who were implicated with him. The Aurora was lying at Detroit last summer and was seized on some claim, the mate being appointed keeper. The charge is that Capt. Cosgrove gave the mate to understand that he would go and arrange the case with the marshal and the two left the boat together. Later the mate received a message to go up town and complete the arrangements. During his absence Capt. Cosgrove, it is charged, returned, re-embarked and cast off, getting into Canadian waters before he could be overtaken.

Capt. John Symes continues on the gain, and will probably be able to take his boat out in the spring.

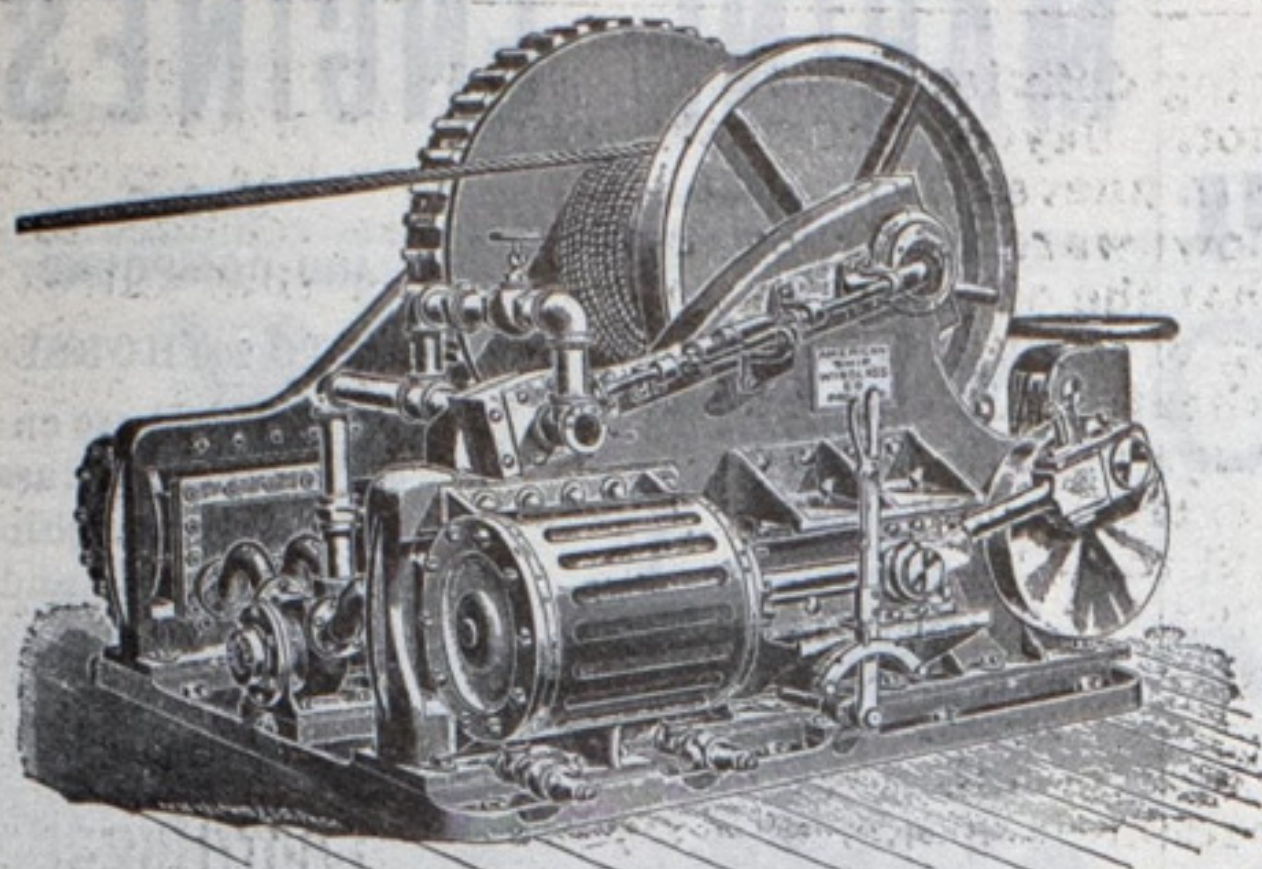
Amos James calls attention to an error in the Detroit News, which printed the statement that the Sam Ward was built 50 years ago on the site opposite the Wayne Hotel, where a brick building is to be erected. Mr. Amos says the yard mentioned belonged to Oiver Newberry. Sam Ward never owned a shipyard in Detroit, but built all his boats at Newport, now Marine City.

E. J. K.

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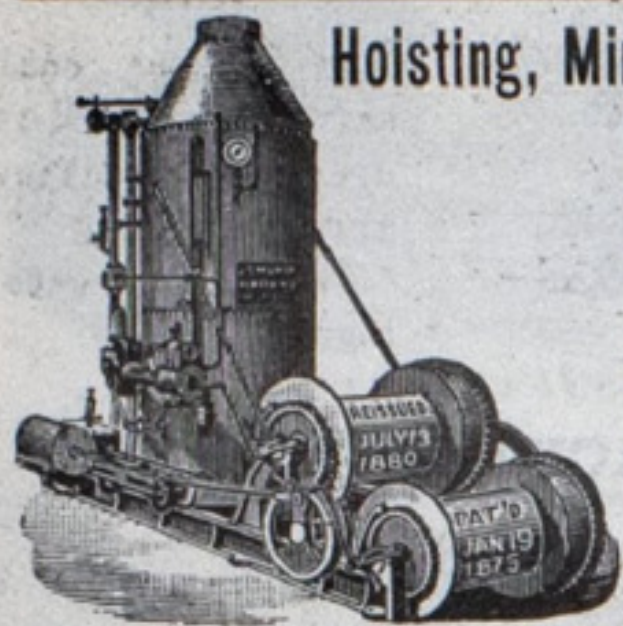
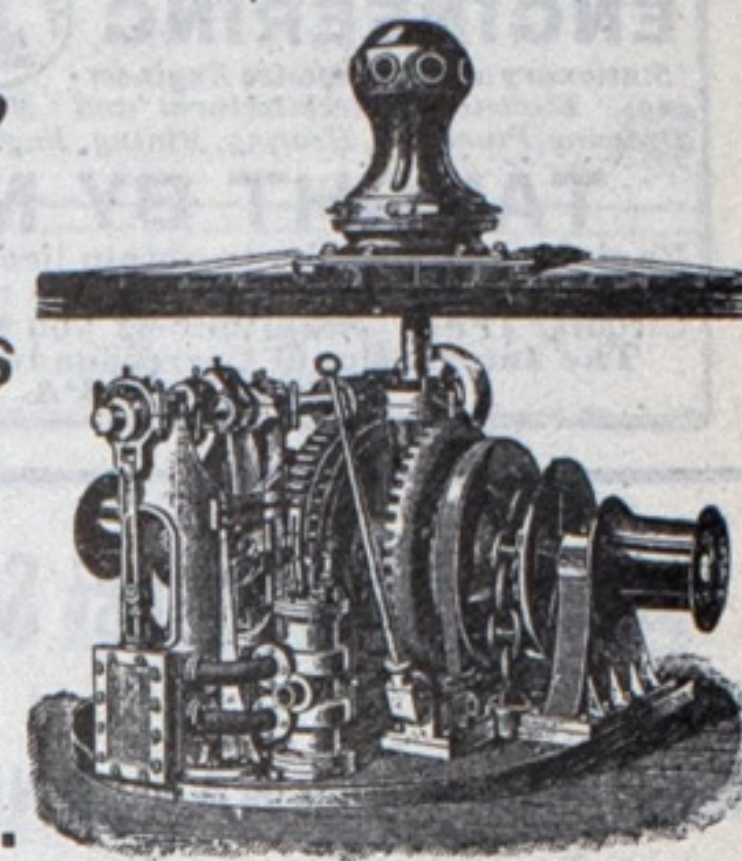
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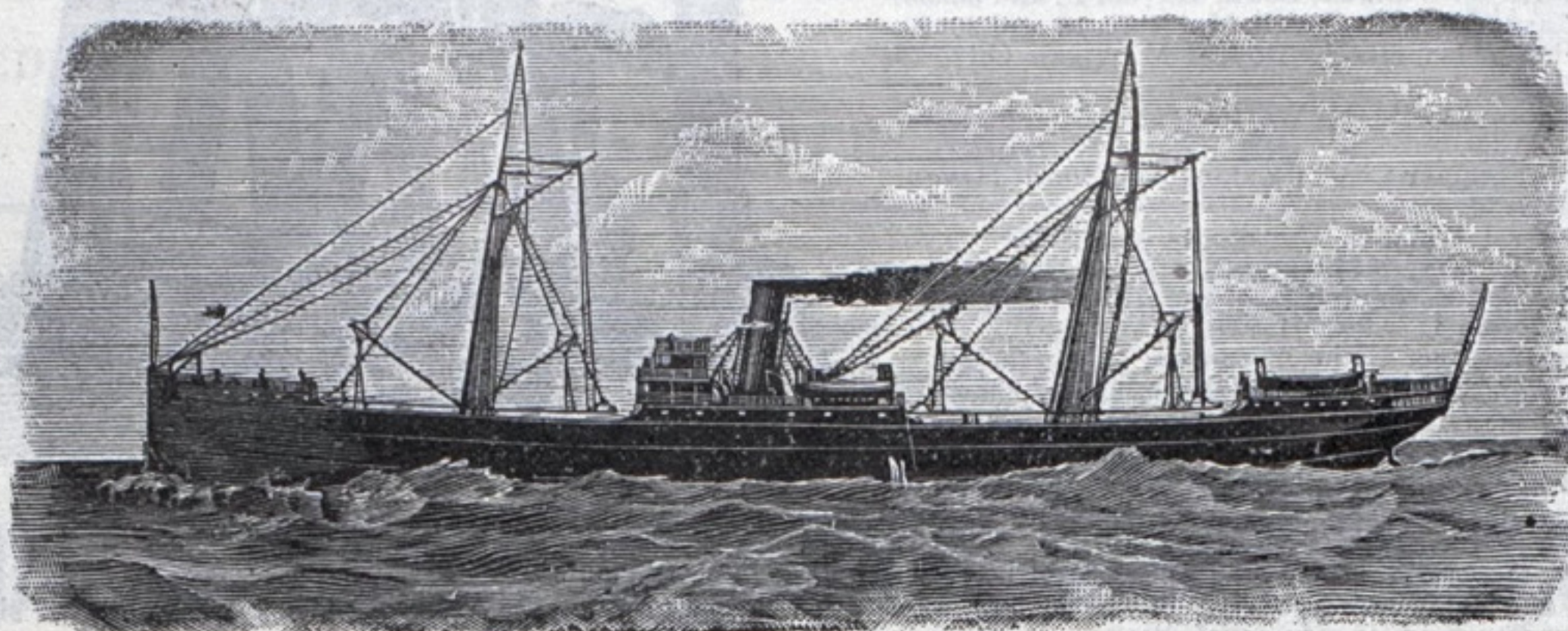
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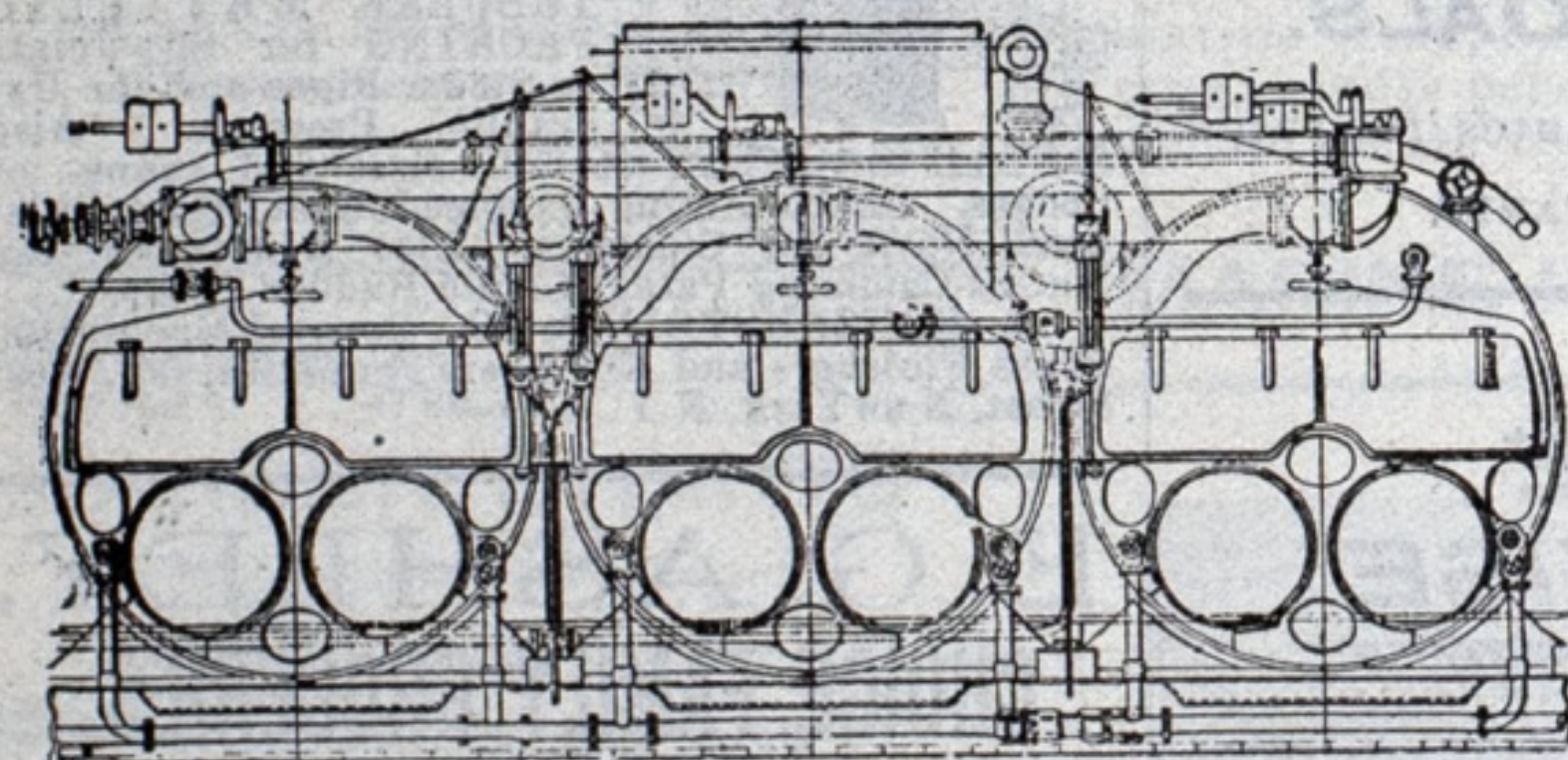
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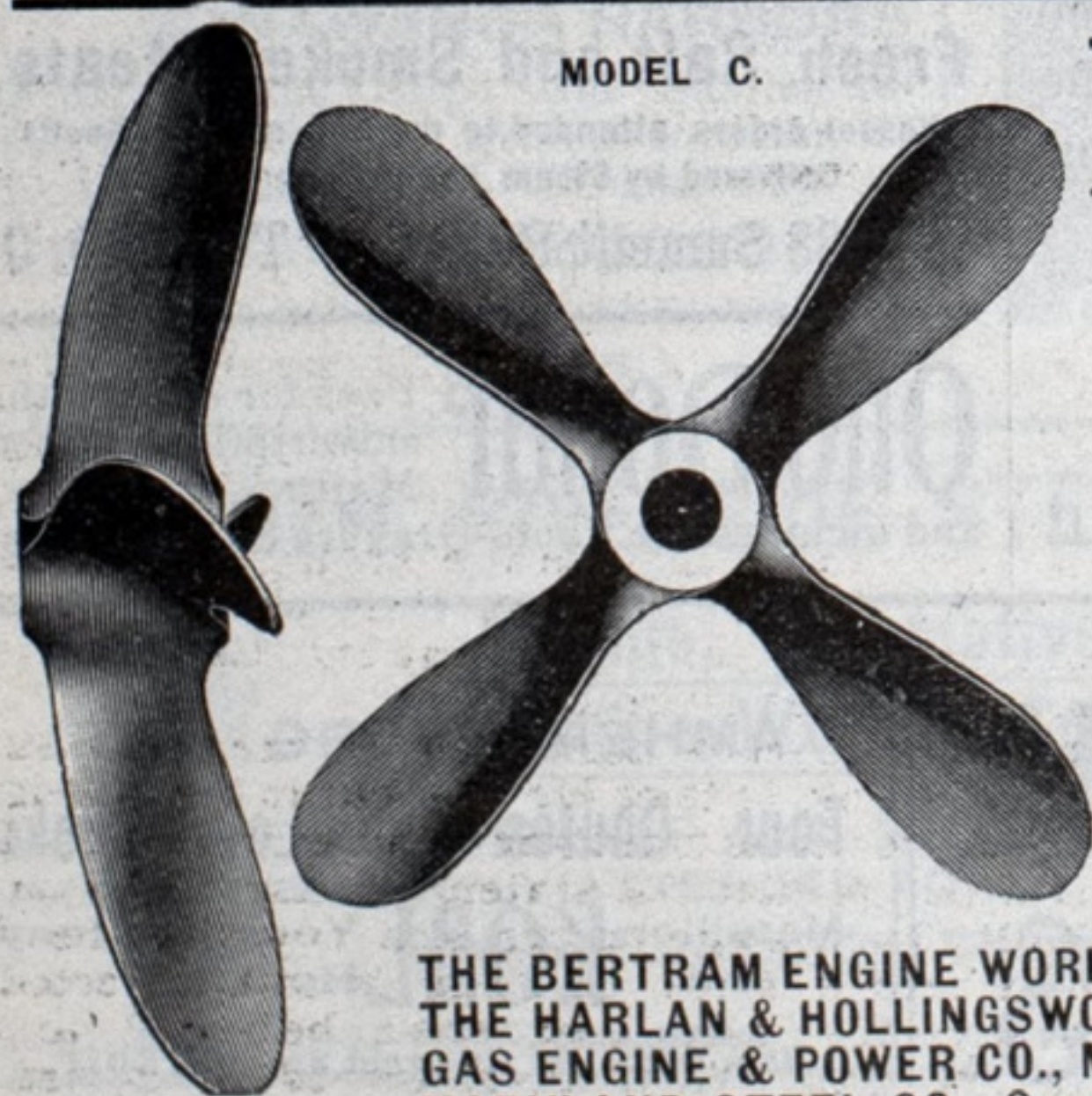
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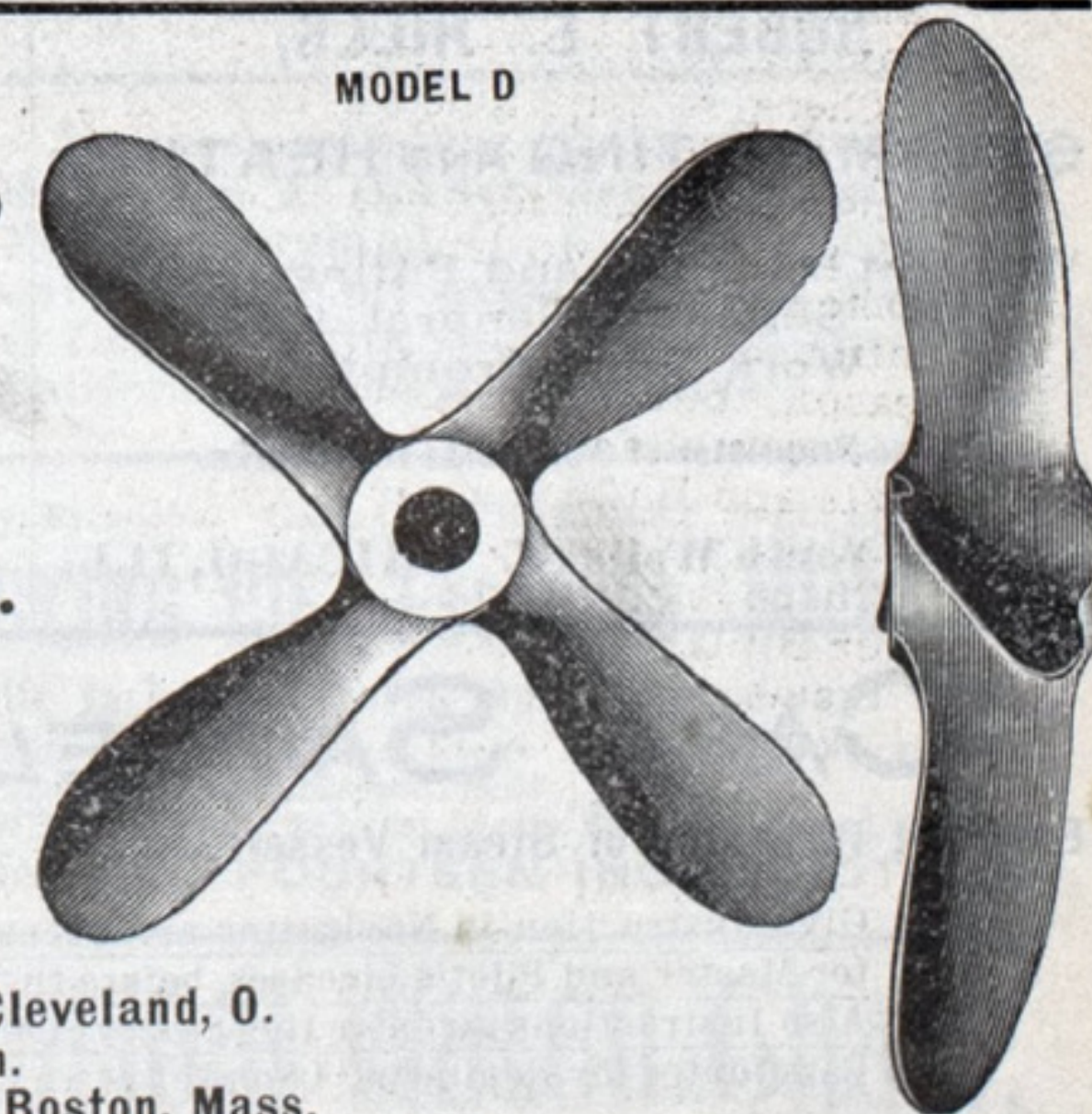
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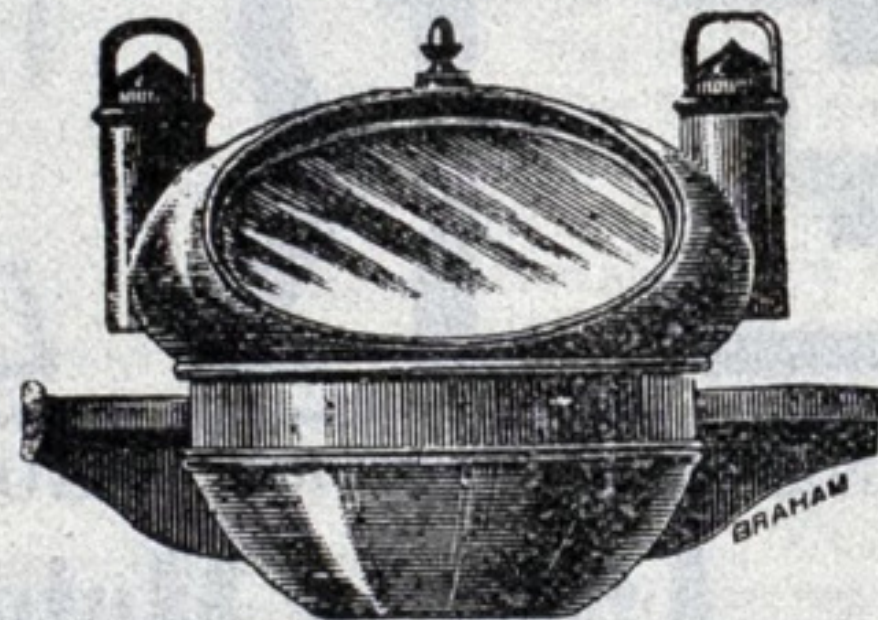
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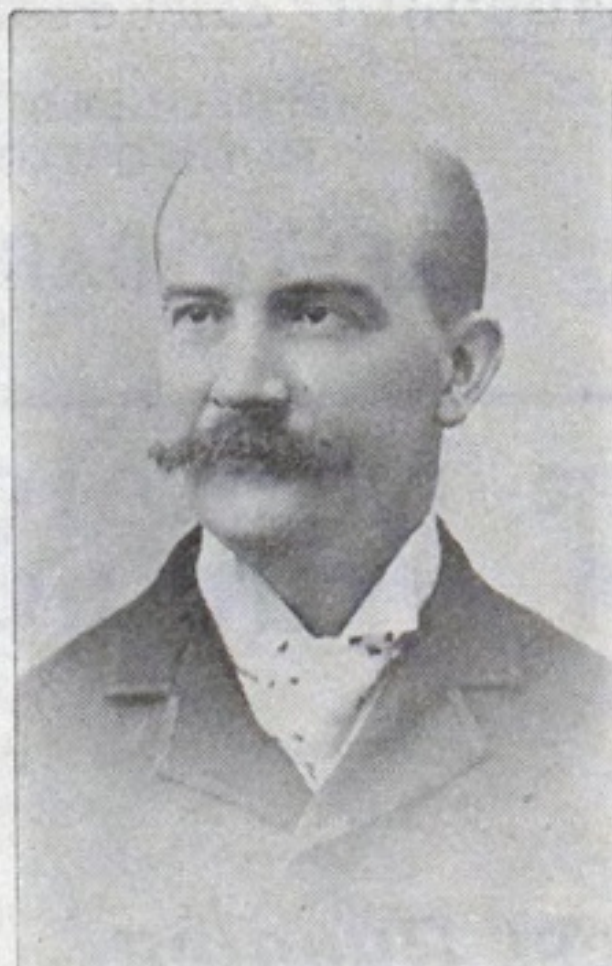
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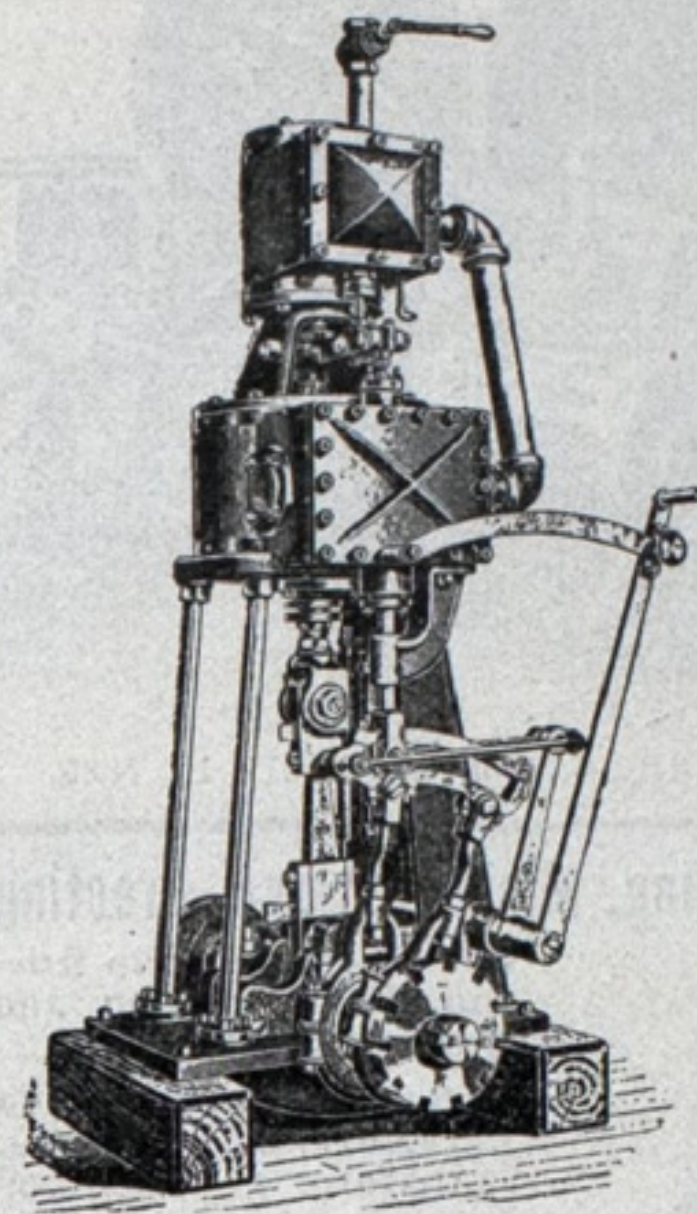
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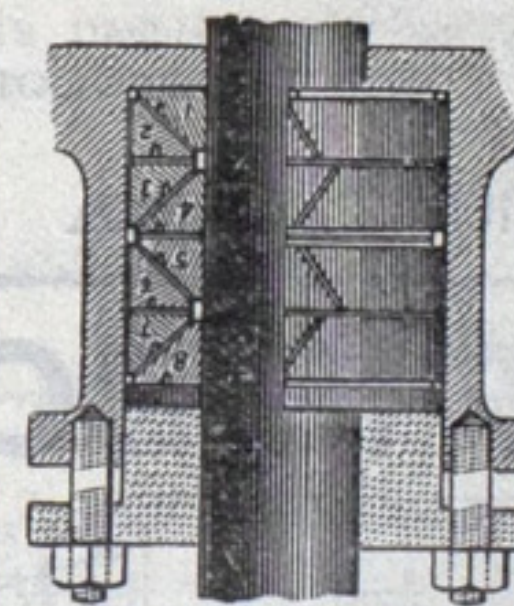
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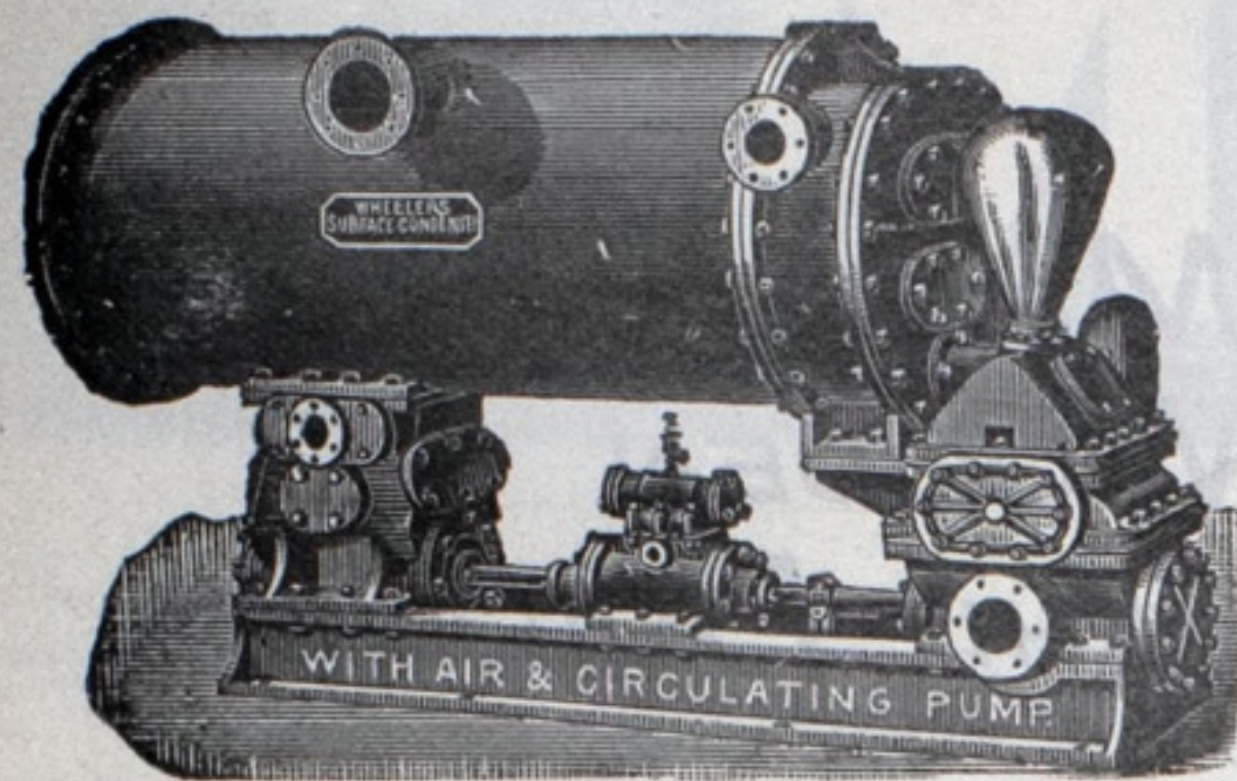
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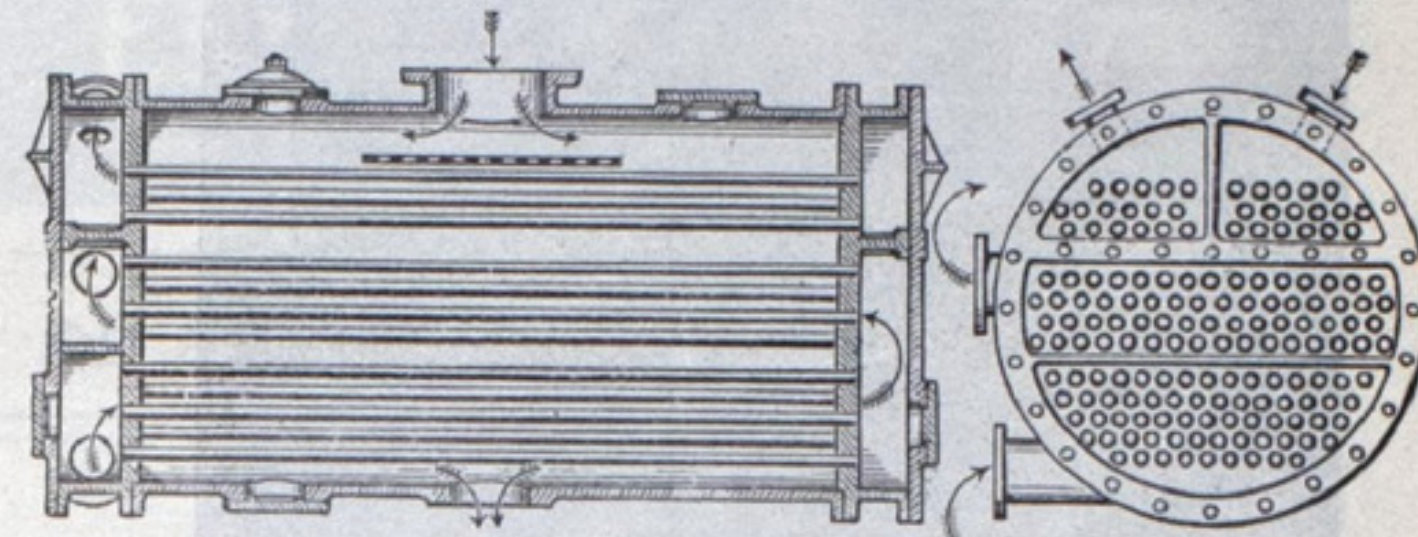
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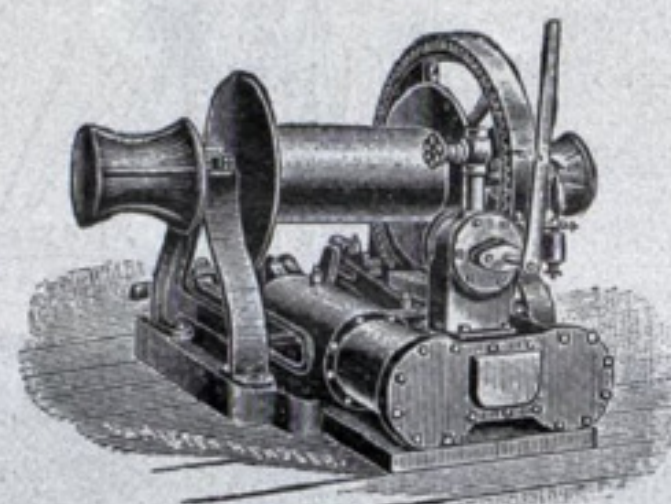
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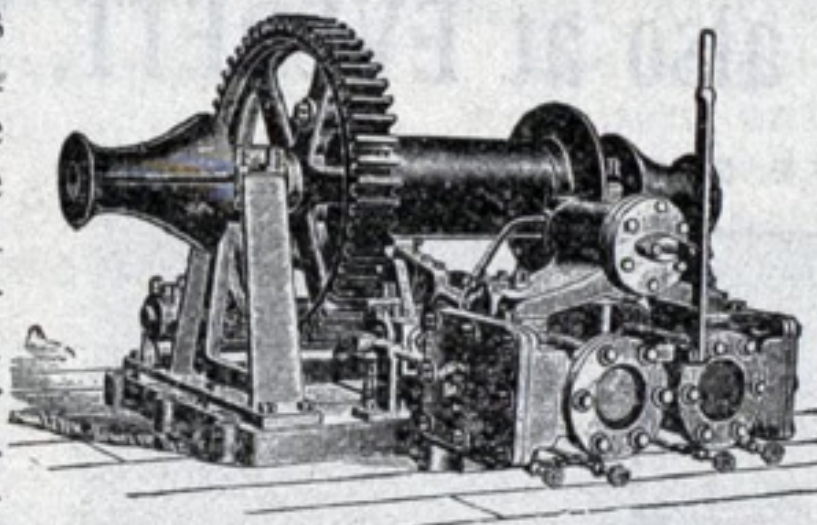
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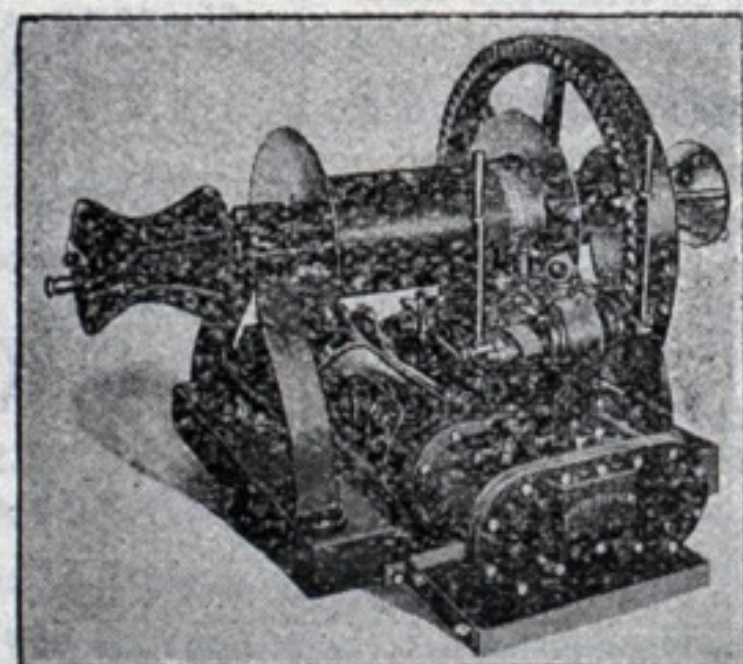
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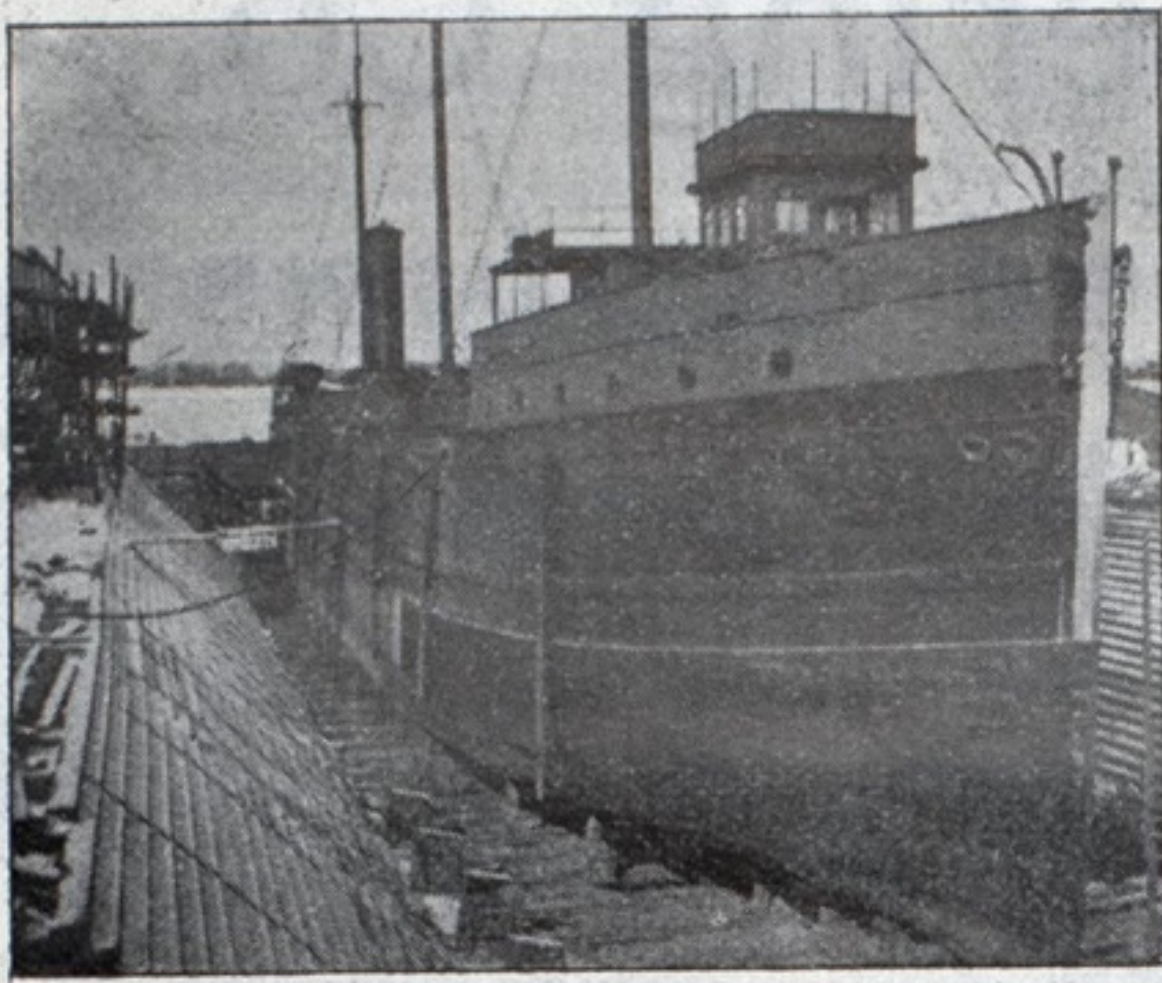
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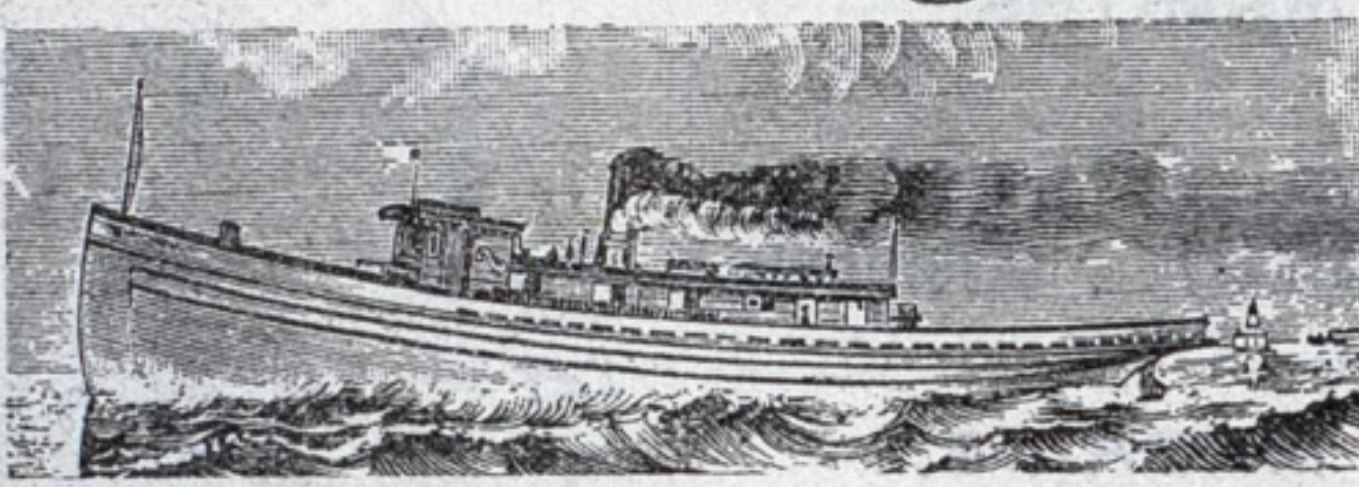
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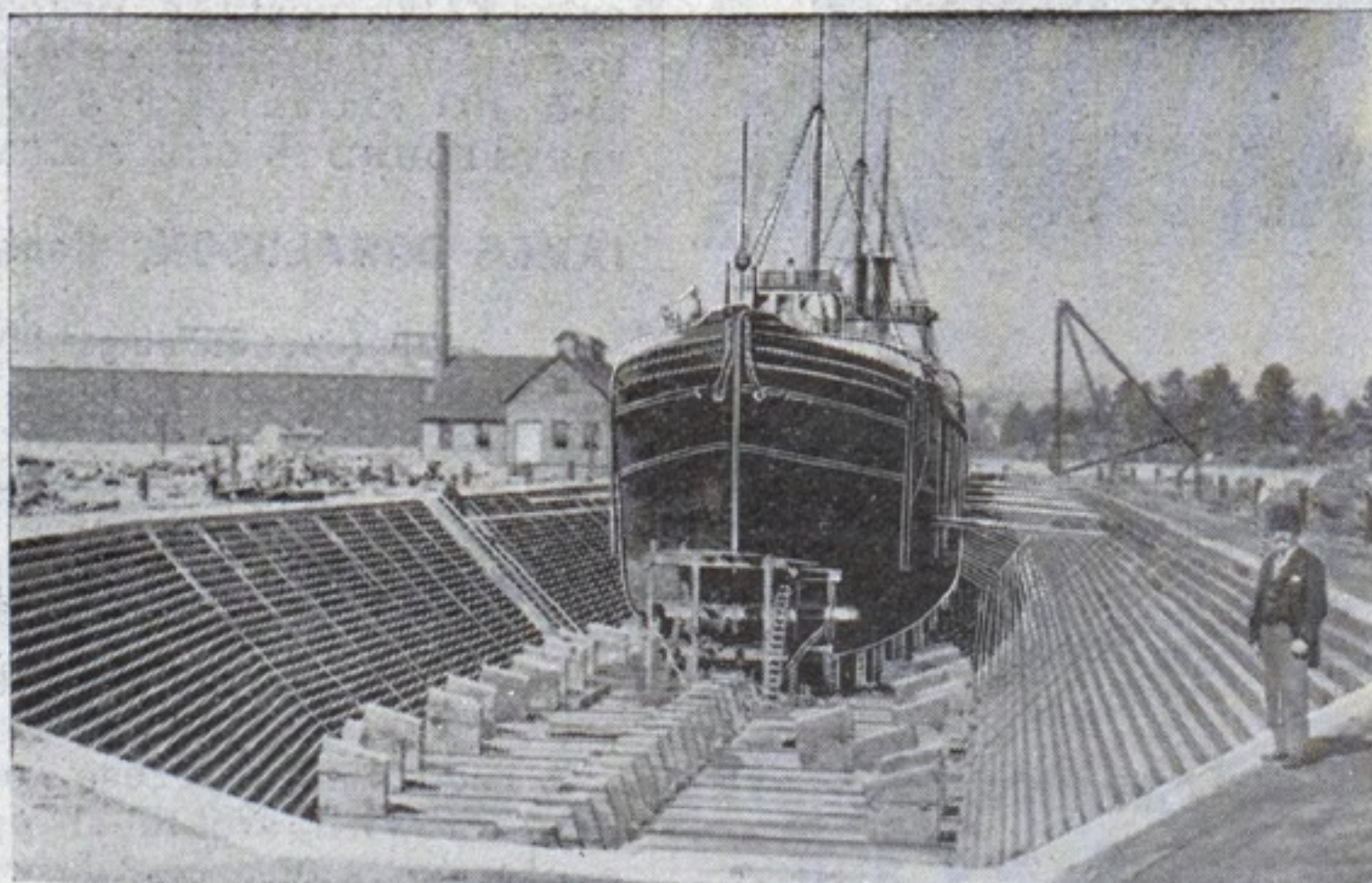
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Breadth, Bottom.....52 "	Depth over Sills.....18 "

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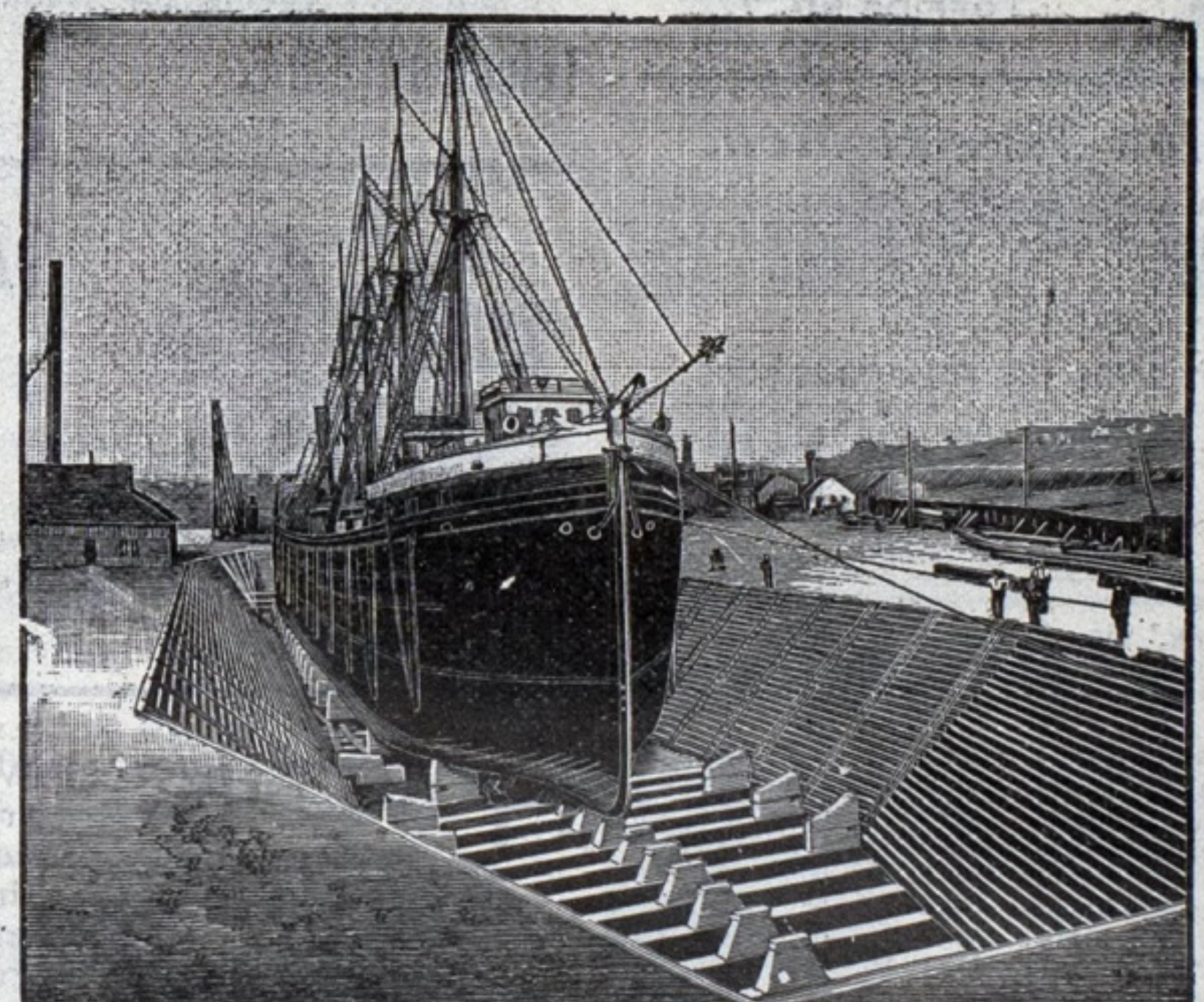
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